

National Integrated ICT Policy Review Report

March 2015



telecommunications
& postal services

Department:
Telecommunications and Postal Services
REPUBLIC OF SOUTH AFRICA



Foreword: ICT Policy Review Panel Chairperson

It is my pleasure to present this report outlining recommended policy approaches proposed by the ICT Policy Review Panel, to the Minister of Telecommunications and Postal Services for his consideration. This report marks the culmination of more than two years of work.

We were appointed as an Integrated ICT Policy Review Panel in December 2012 and began our work in January 2013. At the beginning, the task assigned to us looked nearly impossible to accomplish given the pressure of time, the varied backgrounds of the Panel members both in terms of their expertise and views, and the resources that were placed at our disposal. At the initial stage of the process, every step, approach and concept required extensive debate including where to begin, but, as is evidenced by this Recommendations Report, members of the Review Panel did not let the seeming immensity of the task deter them and focused on fulfilling the responsibilities given to them.

There have been four public engagement stages in this review process. The Framing Paper asked for proposals on what principles and policy objectives should underpin the South African Information Communications Technology sector. The Framing Paper, importantly, linked these principles and policy objectives to the South African Constitution, the National Development Plan (NDP) and other government frameworks, as it adopted a rights-based approach to the development of a sector that is inclusive and serves South Africans equitably. The results of the consultation on the framing principles and policy objectives are presented in this Review Report in sections dealing with the Overarching Policy Objectives and Regulatory Principles and Approaches.

Developing a Green Paper to seek public participation in identifying burning issues and input on their resolution proved the most challenging task both conceptually and practically. The policies in question had not been reviewed since their introduction more than 15 years previously and the ICT sector had evolved dramatically with convergence, challenging all the initial approaches previously adopted. The argument was forcefully made in Panel meetings and in public forums that the Panel needed to deal solely with convergence rather than evaluate the impact of previous policies focusing separately on the broadcasting, telecommunications and postal sectors. It is a tribute to the Panel and the quality of engagement and discussion that after extensive debate it was recognised that it was crucial to diagnose challenges faced in the past in charting a new way forward and therefore that the Green Paper needed to recognise and not ignore the silos of the past. It was recognised that important questions, such as how we as a country had fared in transforming the sectors and extending services to those who had been denied these in the past and where and why we had failed to fulfil policy objectives, needed to be answered so that government could address the gaps and challenges in policy implementation. The Green Paper sought to explore these issues.

The transition from a silo-based focus to an integrated approach required an entirely new public interactive stage focusing on options for the future. The Discussion Document summarised the policy challenges identified in submissions made on the Green Paper and put forward for further



comment solutions proposed by members of the public and sector stakeholders. In many ways it allowed a “conversation” between all stakeholders as they commented on and engaged with each other’s suggested strategies for the future. The inputs made by the public and comments on these were of great value to the Panel and made the work of the Panel in arriving at recommendations much simpler. This Final Report is the result of the considerations of all inputs to the Discussion Document.

The extent to which the active participation of the public, sector organisations, industry players, government departments, non- governmental organisations and individuals has enriched the policy review process in all stages cannot be overemphasised. The Panel is indebted to all who took the time to make comments, suggestions and input. The Panel was conscious throughout the process that the tight deadlines set for each stage given the urgency of finalising policy placed a strain on those participating. Thank you to all who despite this, participated actively and provided the Panel with such considered contributions.

As a Panel we also owe gratitude to the members of the Department of Telecommunications and Postal Services (previously the Department of Communications) who participated in the work of the ICT Review Committees. In particular we thank the Project Management Office for the efficient service rendered to the review process. Without the dedication of this small team, that had to manage the administration of the Panel and the process of public and intergovernmental consultation, the Review would not have succeeded. You discharged your responsibilities with aplomb.

The last word goes to the members of the Integrated ICT Policy Review Panel. Thank you for making yourselves available to develop proposals to support the ongoing transformation of our country and the way South Africans work, interact with each other, learn and participate in our democracy. The journey might have been long and demanding and required various sacrifices from you. The end though has justified the hard work.

Finally, it has been an honour to be given the responsibility of leading this review process and engage with all of those that have actively participated in it.

Sipho Joe Mjwara
Chairperson of the ICT Policy Review Panel
20 March 2015



Overview of the ICT Policy Review Process

1. Establishment of the ICT Policy Review Panel

- In 2012 Cabinet endorsed a review of all existing ICT related policies (Telecommunications, Broadcasting, Postal Services and e-Commerce) with the aim of developing an Integrated White Paper on ICTs for South Africa.
- Following this, the then Minister of Communications called for public nominations and appointed a Policy Review Panel reflecting a range of different stakeholders and expertise. The Panel of experts were drawn from the South African ICT industry, academia, NGOs, public institutions and state owned companies.
- The inaugural meeting of the Review Panel was held in January 2013.

2. Scope of the ICT Policy Review

The Scope of the Panel was delineated as follows:

- Review the functioning of the policy and regulatory framework of telecommunication, broadcasting, postal and e-commerce in South Africa and assess its effectiveness in achieving appropriate policy objectives for the knowledge-based society. In doing its work the Panel was tasked to give regard to legislative measures, including but not limited to those contained in the Electronic Communications Act of 2005, ICASA Act of 2000, Broadcasting Act of 1999, Postal Services Act of 1998 and Electronic Communications and Transactions Act of 2002.
- Review the structure of the broadcasting, telecommunications, content, postal and e-commerce industries in South Africa, and the role of the Independent Communications Authority of South Africa and take into account the views and expectations of the public in general.
- Determine policy goals and strategies for ICT Research and Development, applications development promotion, human capital development, Investment in ICT market for growth and development.
- Propose universal service and universal access policy goals for South Africa, including methods of policy execution.
- Propose ICT market regulation, and structures, institutional alignment for delivering universal access and universal service policy goals.

3. Outputs of the policy review¹

The work of the Panel encompassed an intensive period of research, discussion, debate, and public consultations. The process undertaken broadly followed the approach identified in guidelines on the implementation of regulatory impact assessments issued by the Presidency in 2012 (“the

¹ All of the Panel related outputs, and research reports are available online at : <http://www.dtps.gov.za/documents-publications/ict-policy-review.html>

Guidelines”).² These state that the basic rationale for regulatory impact assessments is to assist “policy-makers and decision-makers in the design, implementation and monitoring of improvements for regulatory systems”.

Key milestones since the appointment of the Panel in January 2013 included the following³:

- **Framing Paper:** A Framing Paper issued in April 2013 which sought input on what the *objectives and goals* of policy should be. These principles remain largely the same as those set in 1994, though the means to realise these have changed.
- **Research:** Under the direction and guidance of the Panel, the Department commissioned a series of detailed research, which provided input into the formulation of the Green Paper.
- A **Green Paper** released in January 2014 reflected on achievements against the original vision, and asked what have been the major impediments to implementation and what *core issues/problems* need to be addressed in future policy, taking into account the new environment.
- A **Discussion Paper** was published in November 2014. It presented a range of *options* and possible policy approaches to realise the objectives set in the Framing Paper.
- The final milestone of the Panel is this **Recommendations Report**.

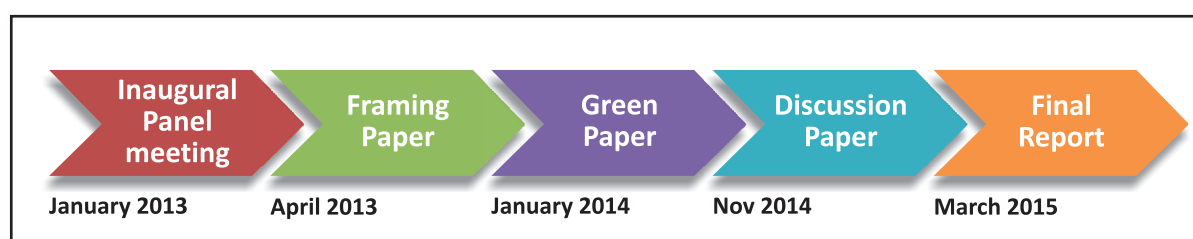


Figure 1: Key milestones over the life-span of the ICT Policy Review Panel

² The Presidency, “Guidelines for the Implementation of the Regulatory Impact Analysis/Assessment (RIA) Process in South Africa”, 2012

³ Note that the public was invited to make submissions on all papers released during this process. In addition, public workshops in all provinces were held after the publication of the Green Paper.

Acknowledgements and thanks

Members of the ICT Policy Review Panel

In 2012, following on a public call for nominations (Government Gazette 35408), the then Minister of Communications appointed a Panel of experts, representing broad interests groups to oversee the policy review process. The members of this Panel are listed below:

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Department of Correctional Services	Department of Public Enterprise
Department of Economic Development	Department of Rural Development and Land Reform
	Department of Science and Technology (DST)
Department of Environmental Affairs	South African Police Services (SAPS)
Department of Health	South African Revenue Services (SARS)
Department of Higher Education and Training	Sports and Recreation South Africa (SRSA)
Department of Home Affairs	State Security
Department of Human Settlement	Statistics South Africa (Stats SA)
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Department of Labour	Department of Trade and Industry (The dti)
Department of Military Veterans	Department of Transport
Department of Mineral Resources	Department of Water and Sanitation
National Treasury	Department of Women

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Broadband Infraco	South African Post Office (SAPO)
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Independent Communications Authority of South Africa (ICASA)	State Information Technology Agency (SITA)
Inkamva National e-Skills Institute (iNeSi)	Universal Services and Access Agency of South Africa (USAASA)
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The Panel records its sincere appreciation to the following individuals and organisations for their very valuable written contributions across all the Policy Review Phases.

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- Neotel
- Paul AH Hjul
- Right 2 Know Campaign
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- Smile Communications
- South African Broadcasting Corporation (SABC)
- South African Chamber of Commerce and Industry (SACCI)
- South African Communications Forum (SACF)
- Support Public Broadcasting Coalition (SOS)
- Telkom
- Transnet
- Vodacom
- Western Cape Provincial Government

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- Broadband Infraco
- Cell C
- City of Matlosana
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- DG Murray Trust
- Eliac
- Ericsson
- ESKOM
- E-TV
- FibreCo Telecommunications (Pty) Ltd
- Freedom of Expression Institute (FXI)
- GSMA
- HEAR2DAY
- Ikamva National eSkills Institute (iNeSI)
- Institute for Information Technology Professionals SA (IITPSA)
- Intel Cooperation
- Internet Solutions
- Internet Service Providers Association (ISPA)
- Information Technology Association of SA (ITA)
- LINK Centre
- Law Society of SA (LSSA)
- MMA
- Meridict Systems
- Mestec Technologies
- Microsoft South Africa
- Mindset
- M-NET & Multichoice
- The Media Policy and Democracy Project (MPDP)
- Mr Fanie Du Toit (South African Hearing Institute)
- Mr Sumeer Mohanlall (413 Media Enterprise)

- MTN
- NAB
- National Institute for the Deaf (NID)
- National Cybersecurity Advisory Council
- National Treasury
- National Community Radio Forum (NCRF)
- Nonhlanhla Tshabalala (NNT)
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- On Digital Media (ODM)
- Paul Hjul
- Progressive Professional Forum (PPF)
- Provincial Treasury of the Western Cape
- Qualcomm
- Research ICT Africa
- Right2Know
- South African Association of Audiologists (SAAA)
- SABC
- SACCI
- SACF
- South African Local Government Association (SALGA)

- South African National Deaf Association (SANDA)
- Square Kilometre Array South Africa (SKA)
- Smiles Communications
- Snail Attorneys
- SOS
- Telkom
- The Association for Hearing Loss Accessibility and Development (AHLAD)
- The Innovation Hub
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- Universal Service and Access Agency of South Africa (USAASA)
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Discussion Paper

- Advertising Standard Authority of SA (ASA)
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- Cape Town TV
- Cell-C
- Competition Commission
- D-Fence Finland
- Epilepsy South Africa
- ESKOM
- E-TV
- Fibreco
- IITPSA
- iNeSI
- Innovation Hub
- Intel
- Internet Solutions
- Investec
- ISPA
- Korwe
- MMA
- Mitrovic Development & Research Institute

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- Mutichoice, Mnet & Orbicon
- NAB
- Naspers
- Neotel
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- Paul Hjul
- PriceCheck Pty Ltd
- Primedia
- SABC
- SABRIC
- SACF
- SAIEE
- Sentech
- SOS
- South African Women in ICT Forum
- Tape Aids for the Blind
- Telkom
- AHLAD
- The Banking Association South Africa (BASA)

- 
- 
- Transnet
 - USAASA
 - Vodacom
 - WAPA
 - Wesbank



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1 Vision and Objectives: Towards an Integrated ICT Policy

1.1 Vision

“By 2030, ICT will underpin the development of a dynamic and connected information society and a vibrant knowledge economy that is more inclusive and prosperous. A seamless information infrastructure will be universally available and accessible and will meet the needs of citizens, business and the public sector, providing access to the creation and consumption of a wide range of converged services required for effective economic and social participation – at a cost and quality at least equal to South Africa's main peers and competitors ... ICT will continue to reduce spatial exclusion, enabling seamless participation by the majority in the global ICT system, not simply as users but as content developers and application innovators”.

The National Development Plan: 2030⁴

This vision in the National Development Plan (NDP) adopted by Government in 2012 provides an apt foundation for the policy recommendations in this report. It has provided the foundation of the ICT Policy Review Process. The NDP states that a “new policy framework will be needed to realise the vision of a fully connected society”, and the policy recommendations presented herein are a step towards achieving this goal of the NDP.

The Panel notes that the Policy Review it has undertaken has not been in isolation from other policy developments such as the National Broadband Policy (South Africa Connect) adopted in 2013. The ICT Policy Review Recommendations Report and the new White Paper will reinforce and extend the objectives set in this broadband plan.

The Panel further recognises that the environment is changing rapidly and that policy interventions will need to be continuously assessed against the objectives set. The policy recommendations are thus presented with a 2030 vision, but a focus on the next five years, after which an assessment against the vision should take place.

1.2 Overarching policy objectives

Just as the Constitution provides an encompassing framework for policy and legislation, so too should an integrated ICT policy be guided by an overarching set of policy objectives. The development of these overarching policy framing objectives was the starting point of the policy review process undertaken by the Panel, and has been strengthened through the three rounds of public consultations.

In presenting these objectives, it must be emphasised that government must take into account the capacity of the regulator, and other state organs to uphold these. Mechanisms to address the apparent capacity problems, was a consistent lamentation by respondents throughout the policy review process.

⁴ The National Planning Commission, National Development Plan: 2030, page 190

The following overarching objectives are proposed as a foundation for a fully integrated ICT policy framework:

- i. **Freedom of Expression:** Facilitate and extend the right of all South Africans⁵ to freedom of expression.
- ii. **Diversity:** Ensure all South Africans have access to a diverse range of creative content, applications and services.
- iii. **Universal Access and Service:** Ensure that all South Africans have universal, affordable and equal access to communications infrastructure, services and content.
- iv. **Access to Information:** Extend access by all South Africans to a broad range of information, opinion, news and analysis of relevance to their communities and lives.
- v. **Economic Growth:** Facilitate access by all South Africans to quality communication infrastructure and services, - across all technology platforms- which enable economic growth, employment and wealth creation.
- vi. **Social Development:** Ensure that all South Africans benefit from the ability of the communications sector to facilitate social development and improve the quality of life for individuals and communities.
- vii. **Cultural Enrichment:** Promote innovation and creativity and support communication mediums, services and programmes that allow users and audiences to celebrate their cultural heritage in the language(s) of their choice (including sign language), to access compelling South African content and create and share content and information.
- viii. **Investment:** Promote and stimulate domestic and foreign investment in ICT infrastructure, manufacturing, services, content, and research and development.
- ix. **Accessibility:** Ensure accessibility for all sectors of the population in respect of services, devices and infrastructure, so that all can equally enjoy and benefit from communication services.
- x. **Values:** Ensure that communications services and content reflect, respect and uphold constitutional and community standards and values.
- xi. **Privacy and Security:** Safeguard the right of all South Africans to privacy, the protection of personal information, and to a safe communications environment.
- xii. **Public Interest:** Recognise and endorse the responsibility of Government to maximise the overall public benefit derived from the use of public resources and to facilitate access to public information, participation in public processes and efficient delivery of services
- xiii. **Innovation and Competition:** Facilitate innovation; fair competition and equitable treatment of all role players to ensure a range of quality services are available to end-users and audiences.
- xiv. **Transparency and Accountability:** Reinforce the right of South African citizens and consumers to maximum transparency in how services are delivered and conditions under which they are delivered.
- xv. **Environmental Protection:** Ensure that the design, use, and eventual disposal of ICTs recognise and protect the right to an environment that is not harmful to health or well-being.

⁵ Note that reference to “all South Africans” in this section implies that persons with disabilities are included in the parameter of the specific policy objective.



1.3 Towards a new integrated ICT policy

The policy review process was initiated by government recognising that new technologies have the potential to further the rights set out in the Constitution. They will change the way citizens communicate and interact with each other and access information, audio and audio-visual content and products and services. Increasing access to broadband, the Internet and Internet Protocol services provides opportunities for South Africa to better implement its socio-economic and cultural development goals and for increased participation by all citizens, communities, the private and NGO sectors in determining these goals and policies.

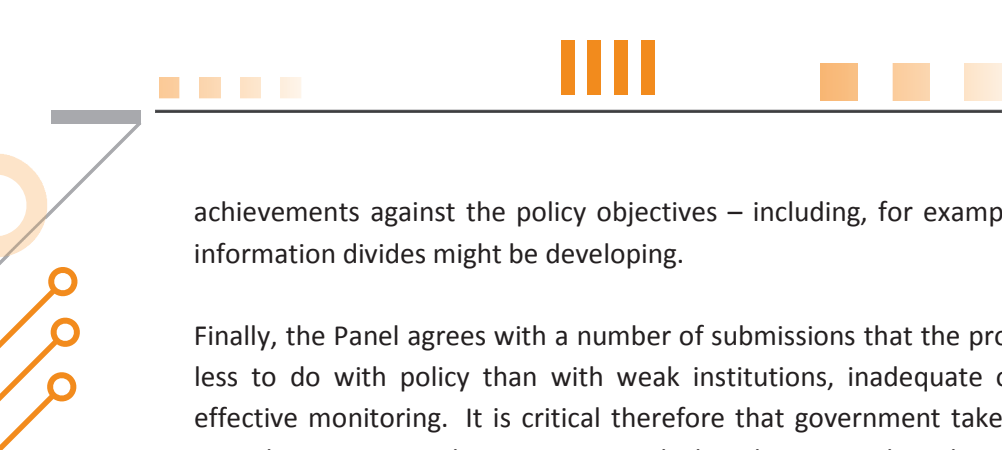
The policy recommendations in this report recognise that the majority of South Africans still rely on traditional mail delivery and broadcasting services, and do not have access to or cannot afford broadband services. More importantly the recommendations have a fundamental concern to facilitate the socio-economic development of the people of South Africa. It is a deep concern that over 64% of households have no access to the Internet.⁶ It is even more concerning that there are probably a far smaller number of these households who have the means to harness the Internet and associated ICTs for their social and economic benefit.

In taking an integrated approach, the policy recommendations, have also considered the entire ICT sector, and are thus shaped to ensure that the objectives of *adoption*, the social appropriation *and ultimately the effective use of ICTs* translates into sustainable social and economic improvements. The Panel wishes to underscore the development goals of the policy recommendations, and thus posit that the recommendations we have advocated are wholly aligned to the long term vision of the NDP - and hence they support the advancement of the development state, and the concomitant improvement of the lives of all our people. Inclusive development requires not only access to infrastructure, devices and affordable services, but also to content, information, digital products, services and applications. It is critical that these are developed in a bottom-up paradigm such that they are relevant to the most disadvantaged sectors of society, support welfare and entrepreneurship and are available in a range of South African languages. It is critical therefore that the role and the voice of ordinary South Africans, especially the digitally disenfranchised, continue to be heard in the shaping of shaping forward-looking policy.

A new policy will have to be people-centred and flexible to adapt to a rapidly changing environment. This cannot be achieved by one government ministry alone. Partnerships and coordination across the public, private and non-governmental sector, with citizens, communities and community organisations, and with South Africa's partners in SADC, AU, the BRICS countries and the world must be forged and strengthened to successfully implement the recommendations in this report.

It is also essential that indicators and concrete targets are set, together with appropriate monitoring mechanisms, so that delivery can be measured and policy adapted where necessary. This requires that benchmarks, goals and metrics are developed, and that there is continuous assessment of

⁶ StatsSA. 2012. Census 2011 Results – Household Internet Access.
<http://mobi.statssa.gov.za/census2011/Internet.html>



achievements against the policy objectives – including, for example, regular analysis of what new information divides might be developing.

Finally, the Panel agrees with a number of submissions that the problems in the sector perhaps had less to do with policy than with weak institutions, inadequate oversight thereof, and a lack of effective monitoring. It is critical therefore that government takes heed of the recommendations regarding institutional arrangements which make proposals in this regard.

1.4 Purpose of this report

This Recommendations Report marks the culmination of the ICT Policy Review process which began in January 2013. The policy recommendations herein will serve as a basis for Government's consideration and approval such that its contents are among key inputs into the Integrated ICT Policy White Paper. The latter will represent Government's formal policy position on all matters relating to Information and Communications Technologies in South Africa.

1.5 Structure of the report

The recommendations report is structured along the same lines as the November 2014 Discussion Paper. It recognises the need to regulate the communications sector very differently from the past if policy objectives are to be achieved. As many stakeholders stressed, convergence and technological changes (including the migration to DTT) require a completely new approach to that of the silo regulation of the past. In addition, the Internet is global, requiring not only that policy recognises that citizens will be able to access content, applications, services and products from across the world, but that South Africa needs to consider and influence international policies on governance of the communications sector.

The following is an overview of the remaining Chapters:

- **Chapter Two: Regulatory Principles and Approaches** recommends key principles and policy areas that affect all ICT related sectors, including core regulatory principles, Green ICT policies and the open Internet.
- **Chapter Three: Infrastructure and Services** presents recommendations on the infrastructure and services necessary to ensure universal access and affordability goals are met. The recommendations are cognisant that ICT infrastructure, together with the multitude of services that it enables and supports, is the invisible but indispensable component for developing the information society and building the knowledge economy. The Chapter also presents recommendations on the postal sector and related services, and options related to the effective management of an increasingly scarce resource, the radio frequency spectrum.
- **Chapter Four: The Digital Society** presents recommendations on issues which promote the application and use of ICTS in varying contexts. The recommendations focus on elements of



a national e-strategy and the building of the envisaged digital society, incorporating e-government, e-services and e-commerce strategies, as well as the policies necessary to ensure trust and confidence in new services. Internet governance is also dealt with in this Chapter.

- **Chapter Five: Audio and Audio-visual Content Services** focuses its recommendations on the new multichannel, multiscreen and multiplatform environment, where audiences will be able to access broadcasting and broadcasting-like content “anywhere, anytime and anyhow” and more easily share content they have created.
- **Chapter Six: Industry Growth** presents an integrated strategy for the development of the ICT industry. It makes recommendations with regards to coordination of the ICT industry, transformation of the sector, investments, expanding the national system of ICT research, development and innovation, electronics manufacturing, and skills development.
- **Chapter Seven: Institutional Frameworks** presents recommendations in respect of institutions and institutional frameworks such that these will support the implementation of policy recommendations presented in previous chapters.

Although the various policy recommendations are organised under different Chapters, the Panel draws attention to the cross-cutting and holistic perspective it has taken in pursuing an integrated policy approach.

1.6 Formatting style of recommendations

As the focus of the report is on policy recommendations, these have been:

- Formatted such that they are easily identified;
- Numbered consecutively throughout the report to enable ease of referencing, and labeled with a descriptor. The unique numbers of the recommendation is prefixed with the letter “R”. The following is a sample of the unique formatting for the recommendations:

R.n RECOMMENDATION DESCRIPTOR

- While the Panel reached consensus on many issues, members inevitably at times had different opinions on the best approach to recommend on specific issues. These views are highlighted in *italics* as a “*Minority Recommendation*”.



2 Regulatory Principles and Approaches

2.1 Introduction

The policy recommendations presented in this report have taken into account a set of overarching policy objectives, developed via the Framing Paper process (see *Chapter 1*). In addition the policy recommendations are underpinned by a broad regulatory approach. These provide a foundation for an integrated ICT policy framework, and as such underpin all of the ICT and related sectors. These include:

- Regulatory principles;
- The approach to facilitating an open infrastructure and platforms (including the Internet) and the net neutrality; and
- Green ICTs.

2.2 Regulatory Principles

The Policy and legislative focus since 1994 has been on regulating the ICT sector “*in the public interest*”. It is recommended that this core approach continue to guide regulation of the sector.

R1. REGULATORY PRINCIPLES

The following principles are key to ensuring the vision and objectives for policy are realised:

- a) Distinct roles and responsibilities:** There must be clearly defined roles and responsibilities for Parliament, Government, the ICT regulator and other regulators in order to avoid duplication and overlaps. This would entail harmonious relationships between regulators, and with appropriate mechanisms in place to foster collaboration and synergies.
- b) Transparency and accountability:** Policy formulation and regulatory interventions should take place in as transparent a manner as possible, with involvement of both direct stakeholders and the general public. Policy-makers and regulators are accountable to the nation, through the appropriate channels. Both transparency and accountability rely on the widest possible public availability of the necessary information and relevant documentation.
- c) Consumer Protection:** Policy and regulation place end-users, from the most disadvantaged individual to the largest corporate, at the centre of their activities. Effective protection and empowerment of consumers and end-users, superior quality of service and affordable pricing are therefore key objectives of policy and necessary areas of regulatory intervention, balancing the interests of all stakeholders.

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- d) **Universal Access and Service:** Addressing the ongoing historical legacy of the apartheid digital divide, and ensuring universal, affordable access to and effective adoption and utilisation of ICT infrastructure and services remain central policy and regulatory objectives, requiring specific intervention. The recognition of the possibility of a new information divide is also crucial and the need therefore to mitigate against this.
 - e) **Technology Neutrality:** In an environment dominated by ongoing convergence of infrastructure and services, regulatory interventions should as far as possible be technologically neutral in order to stimulate innovation and facilitate the development of innovative new product and service offerings.
 - f) **Open Access:** Regulatory intervention should wherever possible be based on open access principles to ensure maximised, efficient and fully-leveraged use of available infrastructure and services, through encouraging infrastructure sharing, spectrum re-farming, optimal interconnection, balanced with the need for fair returns on investment.

R2. PARAMETERS FOR REGULATION MAKING

In line with the foregoing, the following are the values to underpin regulation-making:

- i. Any interventions must be *necessary* to meet clearly defined public interest objectives.
- ii. Any interventions must be *proportionate, consistent and evidence-based* and determined through *public consultation*.
- iii. The regulator must make its decisions without any political or commercial interference and must perform its functions without fear, favour or prejudice.
- iv. The policy maker and regulator must consider the *least intrusive mechanism* to achieve the defined public interest goal/s, and will consider, where appropriate, alternative models such as *co-regulation and/or self-regulation*.
- v. The *regulatory impacts of any action will be assessed* and considered before imposing regulations, rules and/or conditions.
- vi. The policy maker and regulator will act *fairly* and ensure *regulatory parity* in defining markets and deciding on interventions.

Lastly the Panel underscores the importance of ongoing assessment of the impact of policies, rules and regulations in order to, if necessary, amend approaches which are not achieving the identified objectives, address any unforeseen implications of interventions and thereby determine further policy reform.

2.3 Open Internet

A net neutrality policy is an important step to ensuring fair competition between different content and service providers. A net neutrality policy would mean that rules are set to ensure that Internet traffic should be “*treated equally, without discrimination, restriction or interference, independent of*

the sender, receiver, type, content, device, service or application".⁷ Such a policy could also specify that no preferential treatment should be given to any data and include requirements relating to equal charges regardless of user, content, site, platform, or mode of communication.

R3. OPEN INTERNET POLICY

The Panel considered whether an Open Internet policy should be based on a wait-and-see approach, or not. Having considered all of the implications, the Panel notes that:

- The focus of the Open Internet is on upholding the principle of non-discrimination in terms of Internet traffic.
- An Open Internet policy does not preclude reasonable network management, but must prevent anti-competitive behaviour where dominant players use networks to discriminate by prioritising selected data traffic and access to specific services and applications.
- In an environment dominated by ongoing convergence of infrastructure and services, regulatory interventions should as far as possible be technologically neutral in order to stimulate innovation and facilitate the development of innovative new product and service offerings.
- The Internet as a collection of networking technologies was born neutral. However the evolution of networking technology has impacted on the nature of Internet traffic, which lends itself to the application of prioritisation protocols.
- Policy recommendations which have a medium to long term vision must be framed considering possible future challenges and opportunities so that the public interest is protected.

The Panel therefore recommends that:

- a) An open Internet policy, which ensconces the broad tenets of net neutrality, is adopted. In this regard an assessment must be made of the frameworks adopted in other countries and their applicability. Principles to consider include:
 - i. **Transparency** regarding the network management practices, performance, and commercial terms of broadband Internet access services to enable consumers to make informed choices regarding use of such services.
 - ii. **No blocking** of lawful websites, content, applications, services, or non-harmful devices, subject to reasonable network management.
 - iii. **No unreasonable Discrimination.**
- b) The regulator be mandated to assess the extent to which regulatory intervention is required to uphold the public interest and the principles of an open Internet. In so doing the regulator shall consider whether a broad guideline for the industry shall suffice or whether a national industry code and associated co-regulation/regulation will be required.

⁷ European Parliament definition of net neutrality included in proposed amendments to the telecommunications package for Europe. These were approved by the Parliament in April 2014 and are due to be discussed by the European Council of Ministers in October 2014. <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+AMD+A7-2014-0190+237-244+DOC+PDF+V0//EN>

R4. NET NEUTRALITY LIMITATIONS

The Panel considered whether **limitations should be set in a South African net neutrality policy. Approaches which were considered included:**

- Full neutrality
- Specialised services
- Reasonable traffic management or Fair Discrimination
- Paid-prioritisation of bandwidth

It is recommended that:

- a) Limitations are a regulatory issue, and as such must be dealt with by the regulator.
- b) The considerations of any limitations shall not detract from the broad policy principles of an Open Internet.

R5. BROADBAND INTERNET INFRASTRUCTURE AS AN ESSENTIAL FACILITY

The Panel considered whether the broadband Internet should be declared as an essential facility. The Panel noted that South African laws currently set out provisions for a common carrier for broadcasting transmission for rules for essential services. In an era of convergence, current provisions of essential facilities are not broad enough.

The Panel recommends that:

- a) It is necessary to broaden provisions and to declare that broadband Internet infrastructure is an essential facility.⁸
- b) The support of an essential facility status is in support of the United Nations Human Rights Council, which has declared that:

Given that the Internet has become an indispensable tool for realizing a range of human rights, combating inequality, and accelerating development and human progress, ensuring universal access to the Internet should be a priority for all States. Each State should thus develop a concrete and effective policy, in consultation with individuals from all sections of society, including the private sector and relevant Government ministries, to make the Internet widely available, accessible and affordable to all segments of population.⁹

2.4 Green ICTs

The ICT industry accounted for 1,9% of the total global Green House Gas (GHG) emissions in 2011 according to the Global e-Sustainability Initiative SMARTer 2020 Report.¹⁰ The industry's GHG emissions will inevitably grow unless mitigated, given rapid growth in ICT penetration as well as increases in processing power. Green Sustainable ICTs are defined as those which produce low levels of carbon emissions, have an important role to play in reducing carbon emissions. Government's

⁸ In finalising a policy on this government should note that ICASA is responsible for declaring which entities are essential facilities.

⁹ United Nations Human Rights Council. 2011. Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development. Seventeenth session, Agenda item 3. 16 May 2011.

¹⁰ <http://gesi.org/SMARTer2020>

National Climate Change Response Policy (2004)¹¹ emphasises the need for policy implementation across all sectors.

R6. DEVELOPMENT OF A GREEN ICT POLICY

The core policy consideration was whether to introduce formal or information interventions (or a combination of both) to reduce the GHG emissions by the ICT sector.

The Panel notes that

- The disposal of ICT hardware is a problem, and thus e-Waste is an important issue.
- There is considerable effort currently by many companies in the ICT sector to promote the green economy.
- The e-waste stream includes hazardous materials currently being burned and land-filled as well as materials with value.
- Recovering the value in electronic waste is an opportunity to recover valuable materials, to create jobs, and to grow the recycling industry in South Africa.
- A sustainable e-waste solution in South Africa will deliver significant economic value through job creation in growing a green industry sector.
- ICTs have an important role to play in enhancing the ability of all industry sectors to make green decisions.

The Panel therefore recommends that

- a) A final Green ICT policy must be developed, in consultation with the Department of Environmental Affairs, and other stakeholders.
- b) This policy must be aligned to the National Climate Change Response.
- c) The policy must outline responsibilities of all parties and stakeholders, (local and global producers, importer, retailer, distributor, operator, consumer, refurbisher, recycler, government etc.) and their requisite role in the establishment of a sustainable solution for e-waste.
- d) A Green ICT policy must outline a sustainable solution which ensures a level playing field between all actors in the value chain and which encourages healthy competition within the e-waste recycling sector.
- e) The policy shall provide for a mix of self-regulation and formal regulation, and incorporate the following:
 - i. The policy would set broad principles, objectives and approaches to this issue and require ICASA to set rules, regulations and licence conditions to address climate change, emissions for electronic network and other relevant licensees. It would also be required to consider potential environmental outcomes in all decision-making.
 - ii. Non-formal measures based on voluntary compliance shall include:
 - Codes of practice and codes of conduct;
 - Key Performance Indicators ;
 - Targets;
 - Voluntary agreements;

¹¹ This policy is in the process of being updated.

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- Guidelines;
 - Industry labels;
 - Best practice information; and
 - Public consultation, publication, information and education.
- iii. Outline the roles and responsibilities of the regulator and other government agencies.
 - iv. Clarify issues regarding incentives, and affirm that no incentive is needed to adopt ICT related green policies, as it is the duty of all South African's to uphold greening the environment.
 - v. Outline the role of ICTs in combating climate change issues in other sectors.
 - vi. Provide for mechanisms for the reporting, and monitoring of the extent to which there is adherence to Green ICT policy.
 - vii. Provisions for a national awareness campaign in respect of e-Waste, and the achievement of a change in habits and practice.
 - viii. The regulator to examine type approvals and to report on progress made in the sector.
 - ix. Provisions to ensure that producers provide funding, in proportion to their market share, for the appropriate environmental management and treatment of e-waste.
 - x. Provisions to ensure the capacity and resourcing of the regulator to enable it to efficiently and effectively undertake the responsibilities which may be assigned to it, in terms of a Green ICT policy.
 - xi. Outline mechanisms for producers to take responsibility for their products at the end of their life span. This must include regulations for producers and manufacturers to provide processes to ensure that a consumer can return end of life electrical and electronic products (e-waste) at no cost for recycling.

3 Infrastructure and services¹²

3.1 Introduction

ICT infrastructure, together with the multitude of converged services that it enables and supports, is an indispensable component in the development of the information society and the building of a knowledge economy. It is now widely accepted that investment in the growth of ICT infrastructure and services contributes to economic growth and transformation and improvements in the quality of life. Additionally, the deployment of infrastructure and services is essential to reinforce and support social engagement, social inclusion and cultural enrichment. However, such development objectives can only be achieved within an enabling and supportive environment.

The importance of infrastructure to support the deployment of broadband Internet is also critical in the current and forthcoming eras. The Internet is recognised worldwide as one of the most important infrastructure components to enable social and economic growth and therefore a core foundation of an integrated ICT eco-system. Thus infrastructure-related policy recommendations in this report have a substantive focus on how to effectively ensure affordable universal access to this global public network of networks.

Lastly, the policy recommendations in this Chapter recognise that the intervening years since the promulgation of the 2005 Electronic Communications Act has seen ICT infrastructure and services become increasingly integrated and interdependent, forming a complex, highly interrelated environment. Policy recommendations, and in this Chapter must hence be viewed collectively with recommendations in the *Audio and Audio-Visual Content* and *Digital Society* Chapters.

3.1.1 Recent policy developments

The policy recommendations in this chapter must be viewed against recent developments in the policy environment, which include:

- The **National Development Plan (NDP)**;
- The **National Infrastructure Development Plan (2012)** which includes 18 far-reaching **Strategic Integrated Projects (SIPs)**, currently being co-ordinated by the Presidential Infrastructure Co-ordinating Committee (PICC). This includes **SIP 15**, which focuses on *Expanding access to communication technology*¹³ and aims to provide for broadband coverage to all households by 2020. The policy recommendations in this chapter are cognisant that the SIP 15 plan also makes a case that, while the private sector will invest in ICT infrastructure for urban and corporate networks, **government will co-invest for township and rural access, as well as for e-government, school and health connectivity**

¹² **NOTE:** The recommendations in this Chapter are presented against the backdrop of a more detailed discussion of policy issues, presented in the Discussion paper, Chapter 3, pp 25-102.

¹³ <http://www.gov.za/issues/national-infrastructure-plan/#SI-SIPs>

- **South Africa Connect**¹⁴, adopted by Cabinet in December 2013, is an overarching policy for broadband infrastructure, and adopts an integrated, cross-cutting, but citizen-centric approach to broadband. SA Connect provides for a **four-pronged strategy**, with both supply-side and demand-side interventions, to close the gaps between the current relatively poor status of broadband penetration in the country, and the vision of a seamless nationally-pervasive network, which by 2030 will be universally accessible at a cost and quality that meets the needs of citizens, business and the public sector.

3.1.2 *Scope of infrastructure and services policy recommendations*

This Chapter outlines key policy recommendations concerning the development and provision of ICT infrastructure, including converged electronic communications networks, postal infrastructure and its associated services, to support the delivery of content and integrated services.

The ICT Policy Review Panel endorses the centrality of government in creating an enabling environment to ensure affordable access to the full range of services required for effective participation in a modern economy and society. The Panel has framed its recommendations such that policy focuses on ensuring economic and societal benefits and that it enables users to access the broadest range of ICT products and services to spur innovation, creativity, efficiency, and competitiveness.

This Chapter thus makes policy recommendations regarding ICT infrastructure and services within the context of an *integrated* policy framework. Even though the issues are presented independently, the linkages and interdependencies must always be borne in mind. Most importantly, it must be noted that the citizen is the key beneficiary of services and consequently at the heart of the policymaking process.

Given the changes that convergence continues to bring to bear on ICT infrastructure and services and the complex environment that is evolving, the recommendations are framed by the following broad issues, which must consequently also inform the drafting of a new and forward-looking White Paper:

- **Facilitation of socio-economic growth:** In an increasingly converged ICT ecosystem, policy, law and regulation must be framed so as to continue to assist the sector to serve as a key enabler of economic growth, a facilitator of social development and a provider of cultural enrichment.
- **Citizen and community centricity:** Policy, law and regulation must ensure that the needs of the citizen, the user and the consumer remain the centre of attention. This includes the need to explore new ways to ensure that all people have affordable access to the widest possible range of ICT infrastructure and services, and that they are empowered to exploit this access to improve the quality of their lives, to promote their economic well-being, and protect consumer rights across the board.

¹⁴ DTPS, "South Africa Connect: Creating Opportunities, Ensuring Inclusion, South Africa's Broadband Policy", 20 November 2013.

- **Postal services:** The adaptation and modernisation of postal services to ensure their continued relevance and value, such that the existing postal infrastructure and network are leveraged to provide an expanded range of goods and services to South Africans.
- **Flexibility of policy to adapt:** There are unforeseen or dimly foreseen issues and challenges which will continue to arise and evolve in the sector. Policy, law and regulation must thus be structured so as to keep abreast of the ongoing wave of innovation, so as to cater for new issues and features as they arise and to manage them in the best interests of the country and its people.

3.2 Postal services

The postal sector in most OECD countries, including South Africa, remains dominated by a state-owned vertically-integrated monopoly, still largely protected from the forces of competition. In the current era the postal services sector is an important component of the economic sector in South Africa, contributing approximately 3,16% to GDP. This includes the courier and express parcel market. Letter post is, however, declining both in terms of volume as well as a percentage of total revenue generated in the sector. The declining trend in letter mail volumes is ascribed to the global recession and electronic substitution effects.

However, postal services remain important for people and communities who do not have ready access to e-mail or the Internet. It is also crucial to receive and deliver goods. The postal network also serves as a conduit for government to communicate with communities in the most rural parts of the country, as well as communities without access to electronic media. In addition many businesses rely on the postal, courier and express parcel market for daily operations. From a commercial perspective, the sector is required to be of high quality and efficient so that economic activity in the country is supported.

The policy recommendations in respect of Postal Services are thus informed by the changes in the postal market globally, and the particular dynamics of the South African environment. The recommendations recognise that while volumes for basic letter mail services are declining, the demand for parcel services is increasing. This requires a holistic rethink regarding the appropriate approach for the Postal Sector going forward, and which includes policy recommendations regarding the extent of monopoly protection and the ability of the industry regulator to play its role in regulating the market.

3.2.1 Future of postal services

Globally the traditional postal service sector is undergoing reform, fuelled in the main by the advent of the digital economy. The proliferation of electronic mail as well as other communication mediums, poses challenges for growth in the postal services market. The critical issue for postal service operators is how to respond to these new technological challenges. Globally there is a trend towards greater corporatisation, commercialisation or privatisation prior to liberalisation of the postal market. The general intention is to create a more efficient governance structure for the postal operator, particularly when it will have to compete with private operators in a liberalised market.

R7. FUTURE OF POSTAL SERVICES

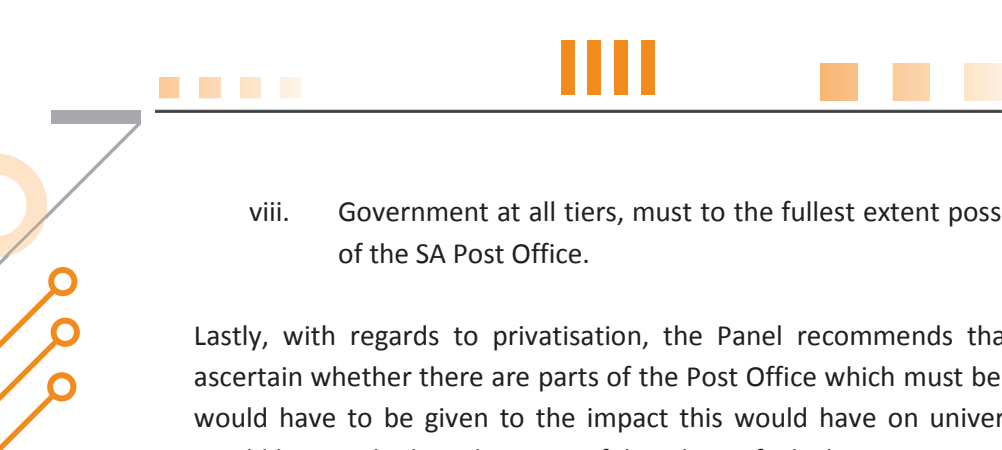
Policy options which were considered with regards to the future of the post office included service expansion, and either partial or full privatisation. The Panel is of the view that the Post Office is an important national strategic asset, and that its turnaround and sustainability is important to our broad long term developmental goals. The Panel further recognises that the Post Office network is extensive and it has established outlets and services in areas not reached by other entities.

Having considered all of the issues, the Panel recommends that:

- a) The digital age presents a range of opportunities, and thus a future Post Office must be positioned as a preferred provider for certain digital services.
- b) The post office comprises a portfolio of high-value property and therefore government must leverage improved value from such an asset.
- c) The state must continue to subsidise services in the rural areas. Postal and related services are like any other services delivered by government. Thus the state will continue to intervene where there is market failure.

The Panel further recommends that the necessary policy reforms must be adopted to allow the Post Office to reconfigure its role and expand current services following a thorough market analysis. The framing of policy must be more dynamic than currently and must include long term visions which are unlikely to change and short term strategies and plans that are responsive to the changing environment. Important considerations for policy include:

- i. The postal services will have to consider new products and services that reflect the evolving mandate to bind the nation together in a new world where people are increasingly communicating digitally.
- ii. A review and expansion of the definitions of postal services in accordance with the proposed expansion of services.
- iii. The expansion of the post-office must be on the basis of business planning, and assessment of feasibility of commercial services, such there is an element of cross-subsidisation of essential services (Universal Access).
- iv. SAPO will have to continue to be the Universal Postal Services Obligation provider. SAPO would thus continue to establish points of presence with a minimum set of basic services for communities.
- v. The universal service obligation of the Post Office must include the provision of infrastructure for access of e-government service for all of government. This therefore implies the integration of SAPO into the broadband network
- vi. There will have to be a consideration that sector players contribute to a Universal Services Fund. Any member of the postal sector who is deemed to be providing universal services should to be allowed to claim compensation from the Universal Services Fund.
- vii. The postal sector should become government's strategic partner in the delivery of basic services.

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- viii. Government at all tiers, must to the fullest extent possible, use and pay for the services of the SA Post Office.

Lastly, with regards to privatisation, the Panel recommends that more research is required to ascertain whether there are parts of the Post Office which must be privatised. Careful consideration would have to be given to the impact this would have on universal service. Partial privatisation would have to be based on a careful analysis of which components of the current business structure may be better suited to privatisation.

3.2.2 Postal market structure and competition

The Panel is of the view that a modernised and effective competition regime is important for the development of the South African postal market. This would entail regulation of the unreserved market which must be subject to the same regulatory regime as the reserved postal market. Currently, however, there are no obligations and conditions on the unreserved and courier postal operators. It is noted, that although prohibited by law, courier and value added services have encroached into the reserved market. Given the intended role of SAPO as government's delivery partner in providing and facilitating crucial services to underdeveloped areas of the country, it is important that its monopoly be retained but in a way that promotes efficiency within the market as well as improves service delivery.

R8. POSTAL MARKET STRUCTURE AND COMPETITION

The Panel notes that:

- Whilst competition can bring important benefits for many customers, it needs to be fair and not at the expense of universal service.
- It is thus necessary to provide legislation which makes it explicit that protection of universal service provision of postal services takes precedence.

The Panel therefore recommends that:

- a) Policy must provide for a periodic review of such protection to its benefit to the sustainability of the Post Office. Such reviews will take into account the need to preserve the provision of postal services in rural areas.
- b) Regulation should be enforced to ensure that government subsidies continue to be wholly used to safeguard universal service provision. Thus there must be a separation of accounts to ensure transparency that subsidies are being justified.
- c) There should be an ongoing review of SAPO's monopoly. As such the regulator must be appropriately resourced to ensure its capacity to regulate the sector.

3.2.3 National Address System (NAS)

Quality addressing and postcode systems are essential for national infrastructure and the socio-economic development of a country. They also form the cornerstone of efficient postal services, facilitating business exchange and hence contributing to a country's economic growth.¹⁵ In most

¹⁵ Universal Postal Union, "About Addressing", <http://www.upu.int/nc/en/activities/addressing/about-addressing.html>

industrialised countries, a physical address is something that is taken for granted, but in many developing countries, as well as some emerging economies, a significant proportion of the population do not have an address. Without an address, individuals cannot be reached, businesses cannot be identified by potential clients, and public services cannot be delivered properly.¹⁶

R9. NATIONAL ADDRESS SYSTEM (NAS)

The Panel notes that:

- Currently, South Africa lacks an effective NAS able to capably and comprehensively identify streets and individual buildings that could facilitate the delivery of mail and other goods.
- This has a serious impact on citizens who, for example, require an address in range of different situations, including to open and maintain a bank account.
- Better address coverage further helps private sector actors to expand their market by identifying and providing access to key customers and facilitating goods and service delivery.

The Panel therefore recommends

- a) The establishment of an effective and reliable NAS for the country;
- b) This must include a country NAS Database which includes rural areas and informal settlements.
- c) Policy must specify that SAPO is the custodian of national address rollout and the creation and management of the Address Database.

3.2.4 Postal Universal service and access

Universal service and access policies stress that all South Africans have the right to an effective, efficient and affordable basic postal service regardless of their geographic location or economic status. While there are different approaches to the definition of a universal postal service internationally, most countries have tended to employ the monopoly service provider and reserved market areas as mechanisms for attaining this. The standard rationale for the reserved area is that it allows postal operators to cover the costs of providing a universal service. Postal infrastructure is seen as a “natural monopoly”.

R10. UNIVERSAL SERVICE AND ACCESS IN THE POSTAL SECTOR

It is noted that

- Postal services are considered a public service with an associated expectation of universal service.
- With the introduction of new entrants and enhancement of competition, national objectives such as universal service goals cannot be left only to the incumbent operators.

¹⁶ Universal Postal Union, “Addressing the world initiative”, <http://www.upu.int/en/activities/addressing/addressing-the-world-initiative.html>

The Panel therefore recommends that:

- a) All players in the market should be required to share the responsibility of universal service. Implementation of these obligations must be managed in a manner that is not counter-productive or which defeats the ends of competition.
- b) A policy revision is thus required to extend obligations to market players in the unregulated space. This would be based on the fact that, contrary to its original policy objective which conferred exclusive rights to the incumbent operator (SAPO), couriers and value added services have encroached into SAPO's exclusive markets, resulting in de-facto competition in an area where there should be none. Therefore a mechanism is required which expands obligations to all market players regardless of the market segments in which they operate. A detailed market study should be undertaken to determine the best approach to this, including an assessment of the possibility of introducing levies on other postal service licensees to ensure funding of postal UAS.
- c) Revised policy must introduce provisions requiring all players in the market to take the responsibility of universal obligations. This would entail a revision of the scope of the universal service provider (USP) in South Africa and the possibility of extending this obligation to market players in the unregulated space.

R11. ESTABLISHMENT OF A FUND FOR FINANCING THE UNIVERSAL SERVICE OBLIGATION

The Panel notes that:

- The 1998 Postal Policy maintains that provision of universal service obligations should be derived primarily from profits earned on monopoly and non-monopoly activities.
- It further provides that in order to achieve sustainable profit levels the Minister may in consultation with the Universal Service Provider, set revenue and volume growth targets in licence conditions.
- However, the monopoly position granted to SAPO has been ineffective as a tool for achieving such obligations. Consequently an alternative means of funding must be considered.

The Panel therefore recommends that, in order to achieve the goals of universal service and access described in the preceding section, that obligations must be introduced to the extent that levies are imposed on other licensees. This therefore requires an adaptation of the licensing regime to allow for the auditing of accounts so as to determine contribution to the universal services fund. The Panel therefore supports the establishment of a universal service fund which would have to be preceded by a detailed market study, and an assessment of the mechanisms adopted elsewhere (e.g. Sweden, Italy and France).

3.2.5 Postal Services

3.2.5.1 Banking services

The Postbank has a formidable customer base to launch new services and products in the lending, borrowing and investment sectors and thus provide much needed financial services especially to the currently unbanked, and citizens in rural areas who may not have access to banking facilities. Although institutionally separate from the postal service, the Postbank currently utilises the postal

infrastructure, sharing counter space within post office buildings, mainly in those areas where it is too costly for the Postbank to maintain its own branches. It is argued that the Postbank must be positioned to facilitate financial transactions on SAPO platforms for individuals without financial accounts.

R12. BANKING SERVICES

The Panel is of the view that the Postbank has a critical role in the financial service environment of South Africa, especially as it concerns the economically marginalised citizens, and those who are not in reach of the banking sector. The Panel notes that the Post Bank presents an opportunity for the Post Office to innovate its service offering, in keeping with our recommendation for innovation in terms of its service offerings

As such it is recommended that policy must ensure that:

- a) The Postbank functions as a developmental bank, addressing existing challenges faced by those not reached by commercial banks.
- b) The Postbank provides services to the unbanked, co-operatives, SMMEs, and other sectors.
- c) It operates as an organ of the Post Office, but with separate accounts and with independent liability.
- d) The Post Bank must be free to expand its footprint wherever it needs to including outside of the Post Office network.
- e) Measures should be put in place to ensure that the Postbank is used by all spheres of government and existing development institutions for all transactions and payments.

3.2.5.2 Other services: Freight and logistics, e-commerce and allied services

The postal sector presents its own unique challenges in that it involves not only communications but also transportation and logistics. However current policy frameworks do not include logistics within the sector. Freight and logistics provide an opportunity for a new dimension in the postal business.

From an e-commerce perspective direct marketing is a booming sector and transactions via the Internet are increasing at a high rate. It is believed that e-commerce will very soon be a leading way of conducting business. This dynamic business environment needs a highly developed supply chain infrastructure, which could involve high costs and a long lead time to set up. The postal sector is in a strong position to support the South African Internet economy. The potential greatest threat to the postal industry, the Internet, has therefore emerged as its greatest opportunity to realise greater value from its core assets and strengthen its role as global provider of services for the facilitation of trade and commerce.

R13. FREIGHT AND LOGISTICS, E-COMMERCE AND ALLIED SERVICES

In support of the recommendation for expansion of services, the Panel is of the view that SAPO must be allowed to and encouraged to evolve its services. The following are the Panel's recommendations:

- d) **E-Commerce:** Policy provisions must be developed so that the Post Office's potential to become a key institution in support of e-commerce and m-commerce growth and the delivery of packages is realised. This would ensure that e-commerce is in reach of all people in South Africa, rather than only the urbanised.
- e) **Electronic Signatures:** The SAPO Trust Centre has been fully accredited by the South African Accreditation Authority in terms of section 37 of the Electronic Communications and Transactions (ECT) Act, SAPO can now provide Advanced Electronic Signatures. Safe and secure e-signatures are key for vibrant e-commerce development. SAPO must thus harness this unique position as an accredited service provider offering secure transaction services in the country as an e-signature service provider.
- f) **Freight and Logistics:** Whilst the prospective value proposition around freight and logistics appears appealing, it is recommended that SAPO must only expand services into this arena if a business feasibility study makes a strong case for profitability. Public interest services must be prioritised and services such as freight and logistics must be differentiated as a profit making services.

3.2.6 SAPO network infrastructure

The SAPO holds a 25-year licence and is the only operator licensed to provide services within the reserved area. Given that SAPO has developed considerable networked infrastructure to support its services, its network infrastructure has the potential to alleviate South Africa's infrastructure and service gap.

R14. SAPO NETWORK INFRASTRUCTURE

The Panel is of the view that SAPO's network infrastructure presents a unique opportunity to address the current concerns in respect of the access gap. The Panel therefore recommends that:

- a) **Government Points of Presence:** The Post offices network provides potential ICT access points that could offer a broad range of services (including e-services), as well as extension of the broadband network to rural areas that do not have broadband coverage. Post offices are therefore considered as potential points of presence for broadband infrastructure provision, and this potentially places SAPO as a key element in last mile provision. Issues which may therefore be considered include:
 - i. Consideration must be given during infrastructure planning, to the SAPO broadband infrastructure for the deployment of last-mile connectivity, with each SAPO branch working with licensees at a local level. This would include the provision that, where feasible, fibre termination points be at post offices.
 - ii. SAPO infrastructure, with state funding assistance where necessary, would be increased beyond SAPO's needs and the resultant excess capacity would be sub-let to the private sector in open-access low cost strategies to encourage new entrants and innovative entrepreneurs. The terms of utilisation of the SAPO network would be on the basis of infrastructure sharing amongst operators and any other entity wanting to utilise SAPO's infrastructure at a fee agreed to by parties.
 - iii. SAPO's infrastructure would be made available for peering or interconnection, or for exchanges.

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- b) **ICT related services:** The post office has a role in the provision of basic Internet services through wireless media such as Wi-Fi to local communities. In addition the extensive SAPO network provides an ideal access point for which citizens, in especially rural areas, should be able to access e-government services. SAPO therefore must consider the recommendation for the evolution of its services offerings in this regard.

3.3 Regulating for Convergence

The notion of convergence is a current reality, which the EC Act of 2005 has taken note of. It is not possible in the current era for the various types of infrastructure to be planned in isolation from each other or from the services riding on top of them. Technology-neutral regulation therefore becomes necessary, together with a need to review legacy regulation which will defer the benefits of convergence for South Africa.

Convergence impacts on the ICT sector in a significant manner because of:

- Technological convergence which enables previously separate technologies such as telephony, data and video to be transmitted, saved and received using the same devices;
- Platform, application and service convergence as the shift to IP based technologies erodes the traditional boundaries that are used to define the underlying infrastructure.
- The cost of building infrastructure that can deliver all services is declining whereas the speed has increased many folds because of the inherent speed and size of new infrastructure.

Convergence is of particular interest to policy makers and regulators as it allows service providers who were licensed in one category to offer services in other categories, thus introducing innovation and reducing the resources that would be needed to expand services.

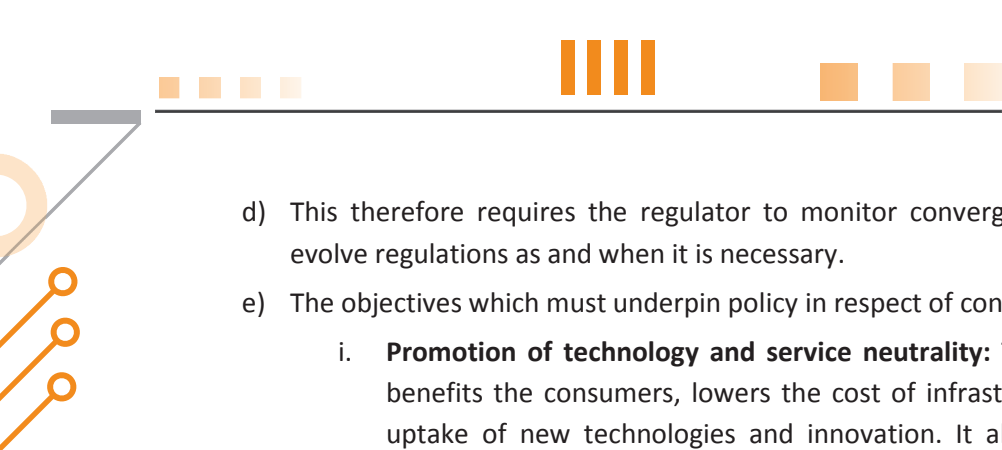
The following recommendation focuses on broad policy issues which stem from the imperatives of a modern converged environment. However, before giving consideration to specifics, it is necessary to consider what policy positions should be included in the White Paper in support of convergence.

R15. POLICY OBJECTIVES UNDERPINNING CONVERGENCE¹⁷

The Panel notes that policy needs to evolve to respond to real-world changes associated with convergence, rather than being a barrier to the benefits of those changes. The Panel therefore recommends that

- a) The realities of a converged market must be entrenched in policy.
- b) A regulatory approach must be pursued such that an incremental adaptation of rules and regulations to the various converging segments is taken.
- c) This requires a careful and ongoing assessment of market dominance and the effects of convergence on such dominance, fair competition, users' right to a choice of service and the emergence of new services.

¹⁷ Note: See Audio and Audio-Visual Recommendations Chapter for further recommendations in respect of specific issues related to the impact of convergence on the broadcasting and audio and audio-visual sectors.

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- d) This therefore requires the regulator to monitor convergence and to be able to flexibly evolve regulations as and when it is necessary.
- e) The objectives which must underpin policy in respect of convergence are:
- i. **Promotion of technology and service neutrality:** This allows for competition that benefits the consumers, lowers the cost of infrastructure roll-out and enables the uptake of new technologies and innovation. It allows service operators to offer multiple services.
 - ii. **Ensure same treatment of content in all platforms:** Access and distribution of content can be done using different platforms. For this to happen, the acquisition, handling, distribution and provision of content should be regulated in an equivalent manner irrespective of the underlying media or platforms.
 - iii. **Remove bottlenecks and allow for the expansion of the market** through entry of new players and services.

3.4 Market structure and Competition

This section deals with market structure issues, the different market segments and competition in the sector and each market segment. A review of the market structure in the ICT sector is necessary so as to support the introduction of measures to promote robust competition in order to achieve the outcomes envisaged in the NDP, SA Connect and other national policies. The failure to introduce effective competition and the resultant domination of the market/s by a few industry players has been identified as a primary reason for South Africa's failure to expand affordable and quality broadband services in line with its peers.

In the future a competitive market will be increasingly important for the development of converged services and the provision of a wide choice of content, applications and services. Additionally, a competitive market should promote the user's ability to access and distribute information and to run applications and services.

3.4.1 Annual Sector performance and Market Reviews

The regulator is empowered in terms of Section 67 of the EC Act to address market failure where it exists. The Act sets out four distinct steps in this regard:

- Defining the market in question;
- Evaluating the effectiveness of competition within the defined market;
- Concluding whether any particular player has significant market power in the market and if so, is this power detrimental to the public interest; and
- If necessary setting pro-competitive terms and conditions on a licensee with significant market power.

It is envisaged that such market reviews of the extent of competition in the various segments will become increasingly important as the sectors converge. Such market analysis will not only identify potential areas that warrant attention of policy and regulation, but also assess which existing interventions could be set aside.

R16. ANNUAL SECTOR PERFORMANCE

- a) The Panel recommends that policy and legislation specify that the regulator must regularly publish an overview annually of sector performance.
- b) That a regular publication of sector performance, including prices, accessibility to services, and sector operators' contribution to infrastructure and network upgrade be provided by the regulator. This publication shall serve as a regular overview of market performance.
- c) The regulator is therefore required to develop a set of indicators for which licensees must be required to provide annual data, where such data allows for an evaluation of market performance.

R17. MARKET REVIEWS

- a) The Panel recognises that the resources and capability to undertake market reviews are intensive. However, the Panel reiterates the importance of market determination, and segmentation of markets as the basis of all regulatory interventions.
- b) In addition it is recommended that the regulator undertake market review analysis, across *all* identified markets. Policy would set the timeline for the completion of the initial market reviews and these could be updated systematically on an incremental basis prioritising the markets with the most significant impact on consumer pricing, among others. In this regard, it is important that the definition of relevant markets is continuously updated to reflect the ongoing evolution of products and services and associated demand and supply changes.
- c) The Panel therefore recommends that ICASA and the Competition Commission be required to regularly consult with each other, and put in place mechanisms to ensure cooperation so as to achieve their respective mandates with regards to market determination. This should entail the development of a MoU to determine the terms of consultation, and where such a MoU is reviewed every three years. It is also recommended that the mandates of both regulators be strengthened such that they have stronger powers and the capacity to ensure that timely information is provided by when it is required.

3.4.2 Development of indicators to assess the market-gap in support of Universal Service provision

Market structure and competition are critical tools that can be used by government to ensure that all South Africans can access affordable broadband services. The extent of universal access, the gap in the access to services and areas that do not have services will influence the obligations placed on the operators and their monetary contributions to a universal service fund. A clear understanding of the infrastructure and service gap will equally be important when public funds, including that in the current USAF, have to be committed to any plan designed to extend the services to reach all.

R18. INDICATORS TO ASSESS THE MARKET-GAP

The Panel notes that it is important to continuously measure the extent to which access to affordable universal services has been achieved.

The Panel, having considered all the options, including that of mandates, recommends that

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- a) It is therefore important to develop a robust set of indicators, to ensure the continuous assessment of the access gap.¹⁸
 - b) This must include a clear and granular analysis of the nature and extent of the various levels of market gaps in respect of access to and utilisation of infrastructure, services and content.
 - c) The policy maker (currently DTSP) must undertake a regular market gap analysis in consultation with the regulator. The policy maker is therefore also responsible for the development of the associated set of indicators.
 - d) The regulator shall be required to provide the necessary information, as per the indicator set, to support the market gap analysis.
 - e) Policy and legislation must ensure that the regulator has sufficient powers to request relevant information from licensees, and that the privacy of information shall be protected such that it shall only be used in a summary format to inform the gap analysis exercise.
 - f) The policy-maker will ensure that the requisite information is provided to the regulator to enable the regular declaration of underserved areas.

3.4.3 Application of competition rules and enforcement thereof

The lack of enforcement of competition rules and the time it takes for the regulator to act in cases of infringements is noted as a serious concern in the current environment. This relates to both the consistent applications of the competition regulations as well as the enforcement of decisions taken. The foregoing recommendations regarding sector performance analysis and market reviews provide for regular publication of information. Recommendations in this section propose how issues that have been identified as warranting consideration in the implementation of the competition framework may be addressed.

3.4.3.1 Ex-Ante and ex-Post regulation

There is general agreement that as competition takes root in industries, the approach to regulating that particular industry shifts from industry specific regulations towards the application of general competition law.

R19. EX-ANTE AND EX-POST REGULATION

The Panel notes that:

- There are market segments in which there are still market players with significant market power enabling them to distort competition in both the fixed and wireless broadband services.
- Competition regulation is adequate to deal with anti-competitive behaviour prevalent in the market. Pro-competition measures which are put in place upfront (ex-ante) discourage the emergence of anti-competitive tendencies.
- *Ex-ante* regulation will support coordination of infrastructure rollout; encourage private sector investment; avoid duplication of efforts; promote general sector efficiencies, protect consumers; and promote universal service and access.
- The definition of the markets, as recommended in the previous subsection, is a prerequisite.

¹⁸ Suggestions include indicators for measurement in the following categories: Network, Product, Consumer, Affordability, and Economic.

- Both ex-post and ex-ante regulation is necessary.

The Panel therefore recommends that the status quo prevails, and that in order to *strengthen* the current policy regime that:

- a) The current provisions in the EC Act remain in place.
- b) The current framework for competition in relation to ex-post and ex-ante regulation should remain in place to deal with the conduct of operators in the market. In this regard ICASA's capacity and its resourcing to give effect to this mandate must be strengthened.
- c) However, policy should ensure that the Competition Commission and ICASA collaborate more closely and that the regulator draws on the expertise in the competition regulator to ensure effective competition regulation.

3.4.3.2 Mergers and acquisitions

Mergers and acquisitions are expected as the market begins to consolidate and sector players strive for efficiencies. Numerous consolidation activities are currently underway in the sector.¹⁹ While some see consolidation as necessary in dynamic network infrastructure sectors, others see it as an innovative way to acquire access to scarce resources. These developments warrant consideration as to their potential effect on the application of competition rules. Their impact raises the issue of how a consistent approach to market competition is needed.

R20. MERGERS AND ACQUISITIONS

The Panel notes that

- Currently there is no definitive policy on mergers and acquisitions. Each case is treated on its merit. This situation results in uncertainty for both the potential investors as well regulators and policy makers.
- In terms of the Competition Act, the Competition Commission has the primary responsibility for all merger approvals.
- In terms of the EC Act, ICASA has the primary responsibility for approving changes in ownership control and in transferring licences.
- In many instances, joint approvals by the Competition Commission and ICASA are required for mergers to take place.
- Mergers and acquisitions should be subjected to regulatory and policy oversight to ensure that competition drivers and government objectives are not compromised.

The Panel therefore recommends that:

- a) The current provisions in the Electronic Communications Act (ECA) relating to mergers and acquisitions must remain but further consultation and coordination with the Competition Commission on approval of such mergers must be required in policy and law
- b) However, both regulators shall be required to collaborate, in terms of their respective mandates, on the basis of a MoU.

¹⁹ For example, Neotel\Vodacom, MTN\Telkom

3.4.3.3 Facilities-based and service-based competition regulations

In the electronic communications sector, the debates about the modes of competition focus on the comparison and the determination of the efficacies of facilities-based versus services-based competition. Those who support facilities-based competition claim that in the long term, market equilibrium will be realised when players in the market build their own facilities. Those who support service based competition argue that available facilities, usually of the previous monopoly, should be shared. They argue that competition should be downstream, mainly in the retail market as opposed to the wholesale market.

R21. FACILITIES-BASED AND SERVICE-BASED COMPETITION REGULATIONS

The Panel notes that

- From a facility-based competition (FBC) perspective regulatory policy promotes multiple sources of facilities-based electronic communications services to the public. FBC would apply to both fixed-line and wireless, unlicensed and licensed providers. FBC may not be feasible in under-served areas.
- Service-based competition is necessary where it is not economically viable to compete in infrastructure deployment and where it is necessary to share the risks of building infrastructure.

It is therefore recommended that

- a) There should not be a blanket approach to either FBC or SBC, and a hybrid approach must be pursued. Policy must therefore promote a combination of facility-based and services-based competition *subject to different markets conditions* and facilitate a healthy balance of competition between incumbents and new entrants.
- b) This combined approach would be intended to stimulate investment and achieve a healthy balance of competition between incumbents and new entrants.

3.4.3.4 Interconnection

The EC Act, recognising that interconnection between competing licensees is a key prerequisite, has substantial provisions dealing with interconnection and its regulation. Under the ECA ICASA is closely involved with interconnection, but largely from a procedural point of view. ICASA prescribes guidelines setting out the process for and principles governing interconnection agreements, which must be filed with them, and adjudicates interconnection disputes. However, ICASA has limited scope to deal with interconnection pricing, other than by prescribing 'pricing principles' or establishing a 'framework of wholesale interconnection rates'. However, to do so it must take into account the complex and onerous requirements of the ECA chapter dealing with competition matters. ICASA may not intervene in the substance of any interconnection agreement filed with it, other than in respect of compliance with the prescribed guidelines. Dominant operators still have price-setting potential over the smaller competitors who seek to interconnect as the only way of survival.

R22. INTERCONNECTION

The Panel notes that:

- While interconnection is a critical regulatory competence, one with the potential to level the playing field, ICASA is constrained in its ability to monitor the substantive content of interconnection agreements in the public interest; and to enforce fair pricing without going via the competition provisions of the ECA;
- Interconnection regulations should not necessarily require the full implementation of the competition sections of the ECA (Chapter 10).

The Panel therefore recommends that:

- a) Policy should ensure that the regulator is more effectively empowered to intervene in the public interest in respect of interconnection in the converged communications environment.
- b) In respect of the current limitations:
 - i. The regulator must be given greater powers to intervene in the substantive content of interconnection agreements when it is necessary and in the public interest to do so, or to address disputes. However interventions should be balanced with the need to ensure speedy resolution of Agreements.
 - ii. Regulations in this regards must make it clear as to the conditions under which the regulator may intervene in an interconnection agreement.
 - iii. An intervention by the regulator is only necessary after an assessment of, for example, affordability issues, and anti-competitive behaviour.

3.4.3.5 Roles of State-Owned Companies (SOCs)

Another element for consideration, in relation to market structure, is the role of state-owned entities whose activities influence the subsectors to a significant degree. Public owned entities are creatures of policy to the extent that they are designed to enable government and society to achieve policy ends. A review of the market structure is premised on the need to review the entirety of the policy framework given that some of the policy objectives have not been realised. The roles of SOCs must thus be appropriately considered and delineated so as to assist in meeting objectives such as universal service and access.

R23. ROLES OF STATE-OWNED COMPANIES (SOCs)

The Panel has considered a number of options with regards to the future role of SOCs. This included

- Government selling or reducing its stake in listed entities;
- Consolidation of all SOC's into one national entity;
- Consolidate of some public listed entities with some SOC's.

Having considered all of the arguments, the Panel is of the view that it cannot make a singular recommendation, given the lack of data to support any of the above. The Panel therefore recommends that:

- a) In the short term that the status quo prevails, whilst a more detailed review takes place.
- b) In this respect, that panel supports the principles of the Presidential Framework for Review of SOCs, to be taken into account, which includes:
 - i. The need for clarity on the multiplicity of roles of the state as shareholder, policymaker, regulator and/or operator, among others;
 - ii. Recognition that SOCs in some cases are critical to the attaining the objectives of the developmental state;
 - iii. Profit and non-profit objectives of SOCs must be clearly defined;
 - iv. Government should adopt appropriate funding principles and models²⁰;
 - v. Government should ensure consolidation of the SOCs into the following groupings:
 - Commercial: Able to maintain and replenish market capitalisation autonomously from the state.
 - Development finance institutions: Able to maintain and replenish market capitalisation autonomously from the state.
 - Statutory corporations: Provide basic and essential services
 - Non-commercial SOCs: Dependent on state funding.
- c) A mandatory periodic review of SOCs must be catered for in policy.

3.4.4 Broadband and Internet infrastructure

Broadband services in South Africa are delivered over copper lines, fibre optics, by satellite, and wirelessly. These comprise our electronic communication network infrastructure, the development of which is an on-going national challenge. The challenges of lack of connectivity and low penetration, of especially broadband and Internet infrastructure, in the rural areas of South Africa are acute and exacerbate the digital divide. Policy interventions and collective efforts are thus needed to build the information society and a knowledge economy in South Africa in order to achieve improved socio-economic development.

There are various segments of the broadband infrastructure value chain that policy should consider in order to advance affordable universal service and access. Such infrastructure segments, which serve to influence the structure of the market, include the following elements: International connectivity, domestic backbone, metropolitan networks and last mile access networks.

3.4.4.1 International Infrastructure

International infrastructure is that which provides South Africa with connectivity to the rest of the continent and internationally. This comprises undersea cables, satellite and cross border fibre.

²⁰ Including state aid principles as articulated in the Institutional Frameworks Chapter of this report.

3.4.4.1.1 Undersea cables

International connectivity is provided via undersea (or submarine) cables. Currently, South Africa is connected to the rest of the world through four submarine cables which provide a combined capacity currently of approximately 11.9 terabytes per second (TB/s). This is a substantive increase in capacity given that prior to the arrival of Seacom in July 2009, it was only 0.8 TB/s.

The policy review considered whether further policy measures are needed to ensure that optimal use of undersea cables continues to promote affordable local access.

R24. UNDERSEA CABLES

The Panel notes that:

- Despite the growing demand for Internet bandwidth, there is currently considerable capacity available to meet envisaged future needs.
- Given that effective undersea cable competition has been established, the focus should be on interventions to extend the connections between South Africa and the SADC region in order to develop South Africa into a hub of broadband activity in the region.

3.4.4.1.2 Satellite

The South African market has for some years attracted the attention of satellite space segment operators with many satellites being equipped with spot beams covering the Southern African region. Satellite service is generally regarded as a last resort high cost option if terrestrial technologies cannot economically reach an area not connected to terrestrial networks. However, satellite technology can offer cost-effective solutions where there are no other options. Unlike terrestrial networks, satellites can provide coverage nearly everywhere: Urban and rural, densely or sparsely populated using a single platform.

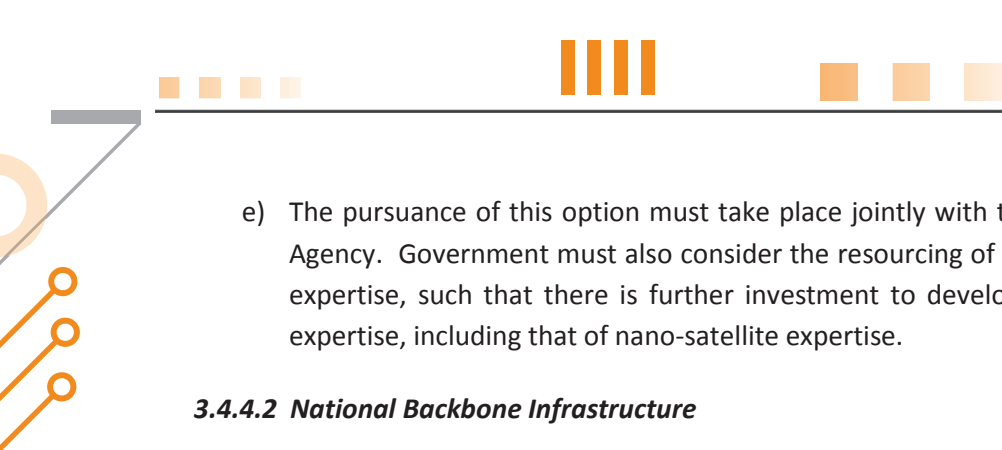
R25. SATELLITE

The Panel notes that:

- Currently there are no locally based satellite operators, and as such there is little control over the costs of satellite connectivity.
- If South Africa is to become a leading force in ICT communications, it must invest in all components of communication technologies, including satellite.

The Panel therefore recommends that:

- a) South Africa must consider in the medium to long term investing in its own satellite so as to provide an alternative connectivity solution for areas that are currently underserved or unserved and which are not suitable for terrestrial connectivity.
- b) This would require securing of an orbital slot for South Africa.
- c) Models of investing in this satellite should be considered. This includes collaboration with other sectors to have different payloads on the satellite which could be used for different services, i.e. military, civilian, etc.
- d) This would require a consideration of a multi-stakeholder approach.

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- e) The pursuance of this option must take place jointly with the South African National Space Agency. Government must also consider the resourcing of universities with current satellite expertise, such that there is further investment to develop local research and innovation expertise, including that of nano-satellite expertise.

3.4.4.2 National Backbone Infrastructure

South Africa has made significant investments in the rollout of national broadband backbone networks which entails, the long distance fibre optic links, including regional (rural) district extensions. Backbone connectivity is provided by a number of private and state-owned enterprises.

South Africa has an extensive long distance fibre network and approximately 86% of the South African population resides within 10km of access to fibre. A policy framework for the provision of access to National Backbone infrastructure is a critical step towards attaining universal access to broadband.²¹

R26. MUNICIPAL POINTS OF PRESENCE (PoPS)

The Panel notes that:

- The majority of the current backbone networks are not available on an open access basis.
- Points of Presence (PoPs) should be considered as part of a broader attempt to achieve Universal Access to broadband.
- During the policy review, consideration was given as to whether to impose PoPs on licensees as part of universal service and access obligations or if government should invest in the rollout of PoPs through public entities such as municipalities and state owned companies.

The Panel recommends that:

- a) A hybrid approach should be pursued.
- b) The regulator must ensure coordination and optimisation of Universal Service Obligations in larger municipalities such that there is limited duplication between license conditions.
- c) Government must intervene to ensure the deployment of POPs, in line with proposed State-Aid rules, based on the access gap assessment conducted.
- d) In these areas it is proposed that a mix of approaches could be considered, including government investment and universal service obligations (where applicable) requiring a shared build between operators based on public-private partnership principles.

3.4.4.2.1 Strategies to promote backbone connectivity

The Panel gave consideration to the following options:

- A single National Broadband Network (NBN) to be constructed as a unified infrastructure built on open access principles;
- Whether a new state-owned National Broadband Network Company (NBNC) to provide rural broadband connectivity should be created;
- Whether public outsourcing is a viable way forward; or

²¹ Note that other policy recommendations, such as those regarding rapid deployment guidelines, are presented elsewhere in this report. These will collectively substantively address backbone rollout bottlenecks.

- If market forces alone will be sufficient to provide a national broadband infrastructure.

R27. PROMOTING BACKBONE CONNECTIVITY

The Panel notes that in the current era market forces have been unable to provide backbone infrastructure to the extent that it meets South Africa's needs. We also accept that the private sector will be a participant in extending the national backbone network. We further accept that the state has to invest in the network as well.

Thus, having considered various detailed submissions on the matter, the Panel recommends an approach which requires *both* private sector participation, and state investment. This would entail:

- Effective regulatory tools and mechanisms should be put in place to extend the network to reach all South Africans and address gaps and bottlenecks in the rollout of broadband;
- A more proactive regulator capable of regulating all aspects of the market to vigorously develop and enforce competition regulations such that it addresses market domination and abuse, and where necessary taking into account new open access market regulatory demands;
- The market would be involved in the roll-out of broadband services with public resources plugging the gaps in areas where the market cannot offer services profitably.
- The market should be restructured into an open access regime in which all players with significant market power (SMP) are required to offer services in line with open access principles and to interconnect with other networks.
- Policy should reinforce the continued role of the National Broadband Council in facilitating the co-ordination and integration of current and future broadband infrastructure into an interconnected open access national broadband network.

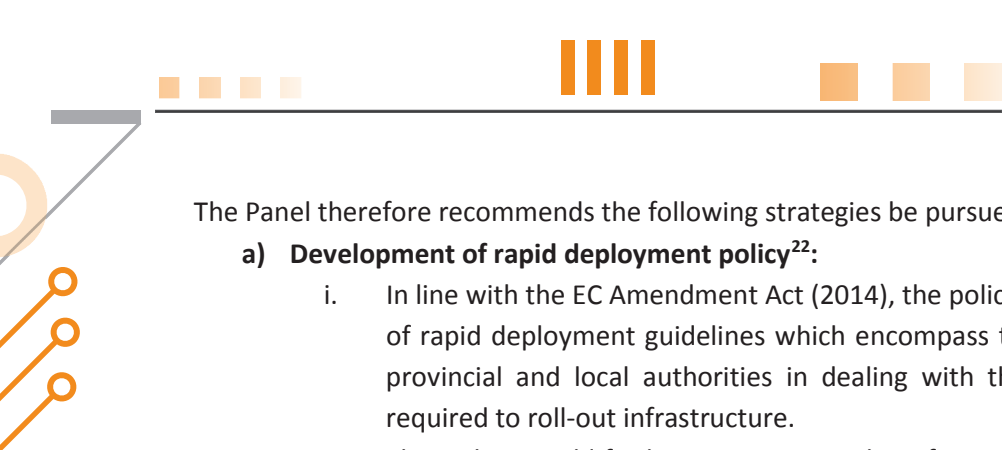
3.4.4.2.2 Metro Infrastructure aggregation

Most municipal areas have considerable core network infrastructure much of which belongs to Telkom. Some municipalities have built their own municipal fibre networks to serve their needs. The current metropolitan area networks have limited network infrastructure in townships, highlighting the unequal deployment of infrastructure. Furthermore, there is lack of coordination in the rollout of broadband in metropolitan areas and this has resulted in unnecessary duplication of effort and networks.

R28. METRO INFRASTRUCTURE AGGREGATION

The Panel notes that:

- There have been challenges in the practices of municipalities with regards to the provision of way leaves and other approvals critical to create an enabling environment for the deployment of broadband.
- There is therefore a need to coordinate, harmonise and expedite the rollout of broadband at the levels of local government.
- Policy must ensure that metro networks are linked to the national broadband network for seamless provision of broadband services.



The Panel therefore recommends the following strategies be pursued:

a) Development of rapid deployment policy²²:

- i. In line with the EC Amendment Act (2014), the policy must support the development of rapid deployment guidelines which encompass the activities of various national, provincial and local authorities in dealing with the various permissions that are required to roll-out infrastructure.
- ii. This policy would facilitate access to rights of way and way-leaves in order to allow for rapid deployment of infrastructure.
- iii. It will further make provision for streamlining of local planning permissions, particularly in harmonising current legislation with the bylaws of municipalities for rapid deployment.

b) Use of government facilities as sites:

- i. Public sites, such as police stations, schools, clinics and government sites must serve as anchor tenants, thus reducing the required funding from government.
- ii. The aggregated demand of the public sites would promote the business case for networks, especially in rural areas.
- iii. This option is consistent with SA Connect's proposal to have Government as an anchor-tenant to aggregate public sector demand. Consideration in pursuance of this recommendation must be given to the constitutionally-defined areas of responsibility of national, provincial and municipal government.

c) Public investments:

- i. In areas that are not commercially viable for the private sector, government would fund the entire network construction and own the infrastructure, on an open access basis. An example of such a model is the City of Cape Town, which has deployed its own fibre network, initially for the purpose of connecting municipal offices but with excess capacity being made available to the market.

MINORITY RECOMMENDATION: Government does not have the resources, capacity or expertise to construct and/or manage such networks. This is clearly a case for a least-subsidy competitive tender process under a universal service fund or through the budgets of municipalities.

3.4.4.3 Achieving 100% last mile connectivity

Research has identified the access network as the largest gap in national broadband infrastructure provision. Broadband access is provided via mobile, fixed wireless, ADSL and, to a very limited scale, satellite and fibre-to-the-premises (FTTP). Mobile coverage is the most extensive, though mobile broadband access is primarily afforded to profitable urban areas and data costs are relatively high. It is critical to extend broadband access in order to provide universal broadband service.

Last mile infrastructure gaps may be addressed through policy on open access principles.²³ The regulation of infrastructure sharing and mandating open access on all access platforms, including

²² It must be noted that this is not the only situation in which Rapid Deployment Policies are applicable. Refer to the more detailed set of recommendations relating to Rapid Deployment further (*Measures to fast track rapid deployment of infrastructure*).

fixed, wireless and fibre is necessary. The sharing of infrastructure can take place at a number of different levels, viz. civil infrastructure, transmission media and Internet protocol level.

R29. ACHIEVING 100% LAST MILE CONNECTIVITY

Four options were considered by the Panel.

- The status quo prevails, and ICASA's Regulatory Impact Assessment continues;
- Advance LLU and make the local loop accessible as an essential facility on non-discriminatory and reasonable terms and with a price control;
- Mandate open access on all access platforms including fixed, wireless and fibre;
- The unbundling of the local loop should include bit stream access and other associated IP protocols presently largely controlled by incumbents.

Having considered all of the debates and submissions the Panel recommends:

- a) Open access on *all* platforms including fixed, wireless and fibre must be mandated through policy to achieve full last mile connectivity.
- b) Policy in this regards must be developed which provides for fair pricing and quality of service.

MINORITY RECOMMENDATION: Policy on open access should specify that it will only be required following a forward looking RIA and should set out the circumstances when this will apply. For example, open access could apply to the assignment of 700/800 MHz spectrum and/or to government funded networks.

3.4.4.4 Mapping of fibre installations

R30. GOVERNMENT'S ROLE IN THE MAPPING OF FIBRE INSTALLATIONS

With regards to Government's role in the mapping of fibre installations, the Panel recommends that:

- a) The DTPS must take responsibility for fibre mapping, as this is aligned with its role function as the SIP 15 coordinator.
- b) The highest level of security is required during the mapping exercise to protect private and commercial interest, and to ensure protection of the communication network;
- c) Information regarding fibre mapping may be shared with relevant stakeholders, but only after the detailed data has been summarised, to the extent that it is relevant for planning purposes and public consumption. It must be noted in this regard that the objective is to share as much information as possible, but keeping in mind limitations due to commercial interests and that of security of essential infrastructure.
- d) Policy must be developed to frame levels of accessibility to fibre mapping information.

²³ Currently the definition of Open Access has not been decided upon. However, The SA Connect Policy uses the Organisation for Economic Cooperation and Development (OECD) characterisation as a working definition for open access: "Open Access arrangements share some common elements, they refer to wholesale access to network infrastructure or services that is provided effectively on a fair and reasonable terms, for which there is some degree of transparency and non discrimination".

3.4.5 Measures to fast track rapid deployment of infrastructure

Government must consider how significant non-cash and indirect investments in infrastructure can be made. The role of municipalities is especially important in this regard. The anticipated escalated infrastructure rollout programme provided for in SA Connect and SIP 15 planning, will place a huge load on local government.

R31. MEASURES TO FAST TRACK RAPID DEPLOYMENT OF INFRASTRUCTURE

The Panel has noted that:

- There is an urgent need to fast-track guidelines for rapid deployment of infrastructure, and for the use of innovative application processes.
- Municipalities struggle on several levels with the rollout of broadband networks, and in facilitating applications from operators for the deployment of infrastructure.
- A recent court ruling on the “rights of way” issue between ECNS and local authorities directs that licensees do not necessarily need permissions from the local authorities to rollout broadband networks. However the Panel is of the view, that the issue may continue to be tested by Municipalities, and therefore has retained recommendations regarding processes in respect of “rights of way” in this recommendation. A final determination in respect of this recommendation, must therefore be made by Government, after due consideration of the court ruling.

The Panel therefore recommends the following, which will synergistically promote investment in infrastructure:

- a) A **national coordination centre**, working together with the SIP 15 infrastructure team should be established to support rapid deployment and interface with local municipalities to fast track rights of way and way-leave approvals.
- b) Measures to fast track Rapid Deployment, through policy, should be introduced including:
 - i. **Standardisation of application and approval processes** for rights of way, way-leaves and servitudes to local municipalities;
 - ii. **Digitisation and automation of the application process** to expedite applications, avoid bureaucratic red tape and enable transparency using on-line tracking mechanisms which should be supported by the development of a national GIS system making it easier to identify available sites;
 - iii. **Transparency of data** in terms of the provision of publicly available fibre maps and relevant information on usage of fibre. Currently, information on where fibre is laid in the ground is not openly available to the public or local government and there is no legal requirement on those entities that have this data to share it. To ensure a sustainable, open and citizen-oriented implementation of the network roll-out of broadband development plans, the fibre maps and relevant information on usage of fibre needs to be made available to local government, and policy provisions be developed to enable this.
 - iv. Development of a clear set of guidelines and requirements governing open access to trenching works and ducts, as well as the fibre itself.

There are also alternative avenues for government to speed up the implementation of infrastructure and to provide **indirect investment** which may be viewed as a form of co-funding. Measures which are proposed in this regard are:

- a) Funding trench digging via the Public Works Fund to assist with fibre laying;
- b) Making government high sites available for broadband equipment installation.
- c) **Skilling local government officials** through short courses and workshops:
 - i. The Local Government Sector Education & Training Authority (LGSETA) and the Media, Information and Communication Technologies SETA (MICT SETA) must jointly assess the skills gap at local government and plan training interventions to capacitate officials to effectively deal with applications relating to infrastructure investment.
 - ii. The private sector must be called on to assist with both the gap assessment and the content of training courses.
 - iii. In the short term, short workshops should be considered to bridge the gap but over the longer term short courses must ensure a bigger pool of skilled persons to deal with infrastructure issues at the local level.

3.5 Infrastructure Sharing and Open Access

Since the mainstreaming of the Internet in the late 1990s, a key concern of government has been the provision of an enabling infrastructure to enable the array of social and economic benefits. However, the electronic communications environment is subject to technological changes associated with convergence. Convergence has created a need for an increasingly integrated, fully interconnected, IP-enabled infrastructure network to provide for the seamless delivery of digitised content and services across a wide range of platforms and devices. The effects of convergence have raised the need to review policy and regulatory approaches so as to provide regulatory certainty and a market structure facilitating innovation and the introduction of new services.

3.5.1 Open Access System

R32. OPEN ACCESS SYSTEM

It is noted that:

- The National Broadband Policy (SA Connect) posits that access to critical and essential infrastructure will determine the failure or success of achieving published broadband targets.
- There are many bottlenecks still prevalent in the South African ICT market that frustrate effective competition and render the South African market more expensive than peer countries.
- Modest results have been achieved to date through the use of the competition clauses of the EC Act. One of the major bottlenecks identified relates to that of access to critical and essential infrastructure.



The Panel therefore recommends that

- a) The following **policy objectives** must be pursued in promoting an open access regime:
 - i. Creating a clear access regime that is enforceable and supports the reduction of the universal access gap.
 - ii. Creating a uniform access regime that takes into consideration all technologies and services.
 - iii. Ensuring a fair return on investment.

- b) The following **principles** should be adopted, and that the regulator is mandated to develop and implement regulations, which are informed by and which are consistent with the same.

An open access network, is a network which satisfies all of the following:

- i. **Offers effective access to the infrastructure:** Effective access will be defined as attainable access easily accessed in reasonable locations using standardised interfaces. The service must be unbundled to a sufficient degree so the access seeker does not have to purchase services it does not need. The quality of service should be suitable to the access seeker's needs and requests for variants of a service should be accommodated where technically feasible.
- ii. **Offers transparent services:** The service pricing, terms and conditions of access to the network must be available to interested parties and the regulator. The billing for services should be transparent and clear. The timeline and processes for procurement, fulfilment, assurance and billing should also be transparent and clear. There should be no cross-subsidisation and operational and financial information should be available to access seekers to demonstrate that services are rendered in a cost effective manner.
- iii. **Offers access in a non-discriminatory manner:** The access provider will be required to provide services on a non-discriminatory manner and will not favour services affiliated with its company. This will involve ensuring equivalence of inputs and outputs, the safe guarding of confidential information, the separation of systems and processes and prevention of conflicts of interest among staff.

3.5.2 Infrastructure Sharing

The principle of infrastructure sharing seeks to promote effective competition, avoid duplication of investment in infrastructure, reduce cost of services and realise universal access objectives. The EC Act introduced a horizontal licensing regime to promote competition among licensees. Notwithstanding this, the market remains structured among vertically integrated incumbents with multiple licences. These incumbents continue to compete downstream with multiple service providers creating anti-competitive incentives. Such anti-competitive behaviour includes the unavailability of the networks of dominant operators' networks at various segments or levels of the network.

R33. INFRASTRUCTURE SHARING

The Panel notes that:

- Legislation currently deals with infrastructure sharing in a fragmented manner.

- In cases where networks are available for sharing through regulation, dominant operators impose high costs for leasing such facilities.
- New players therefore are often forced to resort to building their own networks instead of relying on third party infrastructure, which in certain cases is unaffordable.
- This leads to unnecessary duplication of infrastructure and hinders competition particularly in the services segment of the market which necessitates policy to encourage competitive infrastructure sharing.
- Infrastructure sharing will promote the objective of the NDP to ensure affordable access to an array of ICT services.

The Panel therefore recommends that:

a) Infrastructure sharing must be regulated at all levels of the network

- A thorough market analysis into the behaviour of dominant operators would be essential to determine appropriate policy and regulatory interventions.
- Infrastructure sharing would be regulated at the specific levels of the network as required.
- This would include the infrastructure layer of the network, through enabling sharing of passive infrastructure such as masts and ducts, and the transmission media layer, through enabling the sharing of copper (LLU) and fibre infrastructure.

b) Active network sharing is encouraged

- Sharing of the active electronic elements of the network or national roaming based on market competition analysis must be facilitated.
- An appropriate legal and regulatory framework must be developed to ensure smooth roaming arrangements between operators without any uncertainty.
- This thus requires the creation of policy promoting competition in the active infrastructure segment of the market. Regulation of active infrastructure sharing also needs to safeguard against anti-competitive conduct.

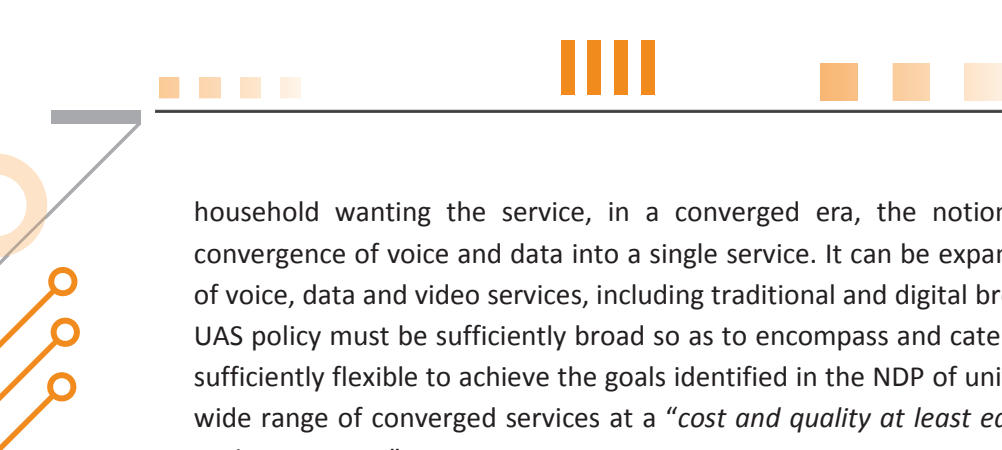
3.6 Universal access & service (UAS)

South Africa as an emerging economy is faced with a number of developmental challenges. In recognising the importance of access to infrastructure, services and content in accelerating social and economic development, government adopted a National Infrastructure Development Plan. The aim of the SIP 15, in this regard is to attain broadband coverage for all by the year 2020 and thus achieve the goal of UAS.

A core principle for future policy is the right of access to communications infrastructure, content and services by all citizens in all areas on non-discriminatory terms. One way of ensuring access to services by all citizens is through universal access and service (UAS) programmes. UAS refers to policies adopted by governments to ensure that citizens have equal and fair access to a point of communication.

3.6.1 Universal Access and Service (UAS) in the Era of Convergence

Convergence has implications in developing UAS policy, given that it has altered the original scope of UAS. Whereas in 1995 universal service was regarded as putting a fixed phone line in every



household wanting the service, in a converged era, the notion has expanded to include the convergence of voice and data into a single service. It can be expanded to address the convergence of voice, data and video services, including traditional and digital broadcasting services. The scope of UAS policy must be sufficiently broad so as to encompass and cater for convergence and it must be sufficiently flexible to achieve the goals identified in the NDP of universal access and availability to a wide range of converged services at a “*cost and quality at least equal to South Africa’s main peers and competitors*”.

The foundation of UAS policy rests on having a clear set of definitions for Universal Service, Universal Access, and related concepts.

3.6.1.1 Definitions of UAS

It is critical to have common understanding and agreement on the key pillars and the resultant definitions that make up UAS in the context of convergence in order to:

- Guide policy formulation governing UAS, which must include the definition of goals and the setting of incremental targets ;
- Support the formulation, implementation and monitoring of suitable regulations;
- Guide industry in implementing Universal Service Obligations (USOs); and
- Assist citizens to exercise their right to universal, affordable access to the full range of ICT infrastructure, services and content.

In addition, policy must:

- Ensure a clear understanding of what constitutes Universal Access and Universal Service, along with meaningful distinctions between the terms, both in terms of definition and in terms of policy objectives and their legislative and regulatory implementation.
- Provide for practical definitions to give effect to the right to universal, affordable access to communications infrastructure, services and content, paying special attention to the exercise of this right by the poor, by marginalised communities, and by persons with disabilities so that there is no discrimination on the basis of disability.

R34. UNIVERSAL SERVICE AND ACCESS DEFINITIONS

The Panel notes that

- Universal access and service has conventionally been framed on three critical pillars²⁴ of availability, affordability and accessibility;
- Together these pillars have, to date, provided guidance for policy formulation and regulatory and programmatic intervention aimed at achieving universal access and service.
- However, international experience indicates that these are not sufficient to achieve the concomitant goals of *adoption and effective use* of ICTs, which is a requisite for social and economic development outcomes.

The Panel therefore recommends that:

²⁴ ITU, World Telecommunication Development Report 1998: Universal Access

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- a) The current definitions must be expanded beyond the constructs of availability, affordability and accessibility.
 - b) In particular, the definitions should be extended such that they align with the additional pillars of UAS which the ITU has identified.
 - c) The definitions must thus be evolved such that the following pillars are encompassed:
 - i. **Availability** – network coverage of the inhabited geographic territory;
 - ii. **Affordability** – ability of users to pay for access to infrastructure and services, including access to devices and networks, cost of service and consumption (e.g. calls, data, content), with targets often set as a percentage of family income;
 - iii. **Accessibility** – ability of all inhabitants to use the service concerned (regardless of location, gender; race, disability).
 - iv. **Awareness** - citizens need to be properly informed of the existence of available infrastructure and services, and of their potential benefits;
 - v. **Ability** - users need to possess the necessary skills to take advantage of the infrastructure and services, such as literacy, language fluency, and ability to use a computer and navigate the Internet.
 - d) This definition set must also include additional definitions for Persons with Disabilities (Recommendation R.35).

R35. RESPONSIBILITIES FOR DEVELOPING AND REVIEWING UAS DEFINITIONS

The Panel notes that:

- In the current dispensation, the EC Act splits responsibilities for definitions between USAASA, the Minister and ICASA;
- It has been argued that splitting of responsibilities has had the effect of non-synchronisation;
- Although definitions of Universal Service and Access and Underserved areas were gazetted in 2010, definitions of needy persons have not yet been published;
- UAS definitions have not been subjected to regular review.

The Panel thus recommends that:

- a) The responsibilities for developing all UAS related definitions be consolidated and government as the policy maker (currently DTPS) take responsibility for this. These definitions should be regularly reviewed by Government and policy should determine the periods between such reviews.
- b) The regulator will be responsible for implementing policy in line with the definitions and will conduct regular reviews to determine which areas/communities continue to be under-served. Policy and law should determine how often such reviews should take place.
- c) The maximum period between review of definitions and the maximum period between the publishing of under-served areas must be defined in policy.

MINORITY RECOMMENDATION: UAS should be defined by the entity that will be responsible for enforcing them, viz. ICASA, in order to ensure regulatory consistency. This would need to be done via a consultative process that will include the policymaker along with all other stakeholders.

R36. DEFINITIONS REGARDING “NEEDY PERSONS” AND PERSONS WITH DISABILITIES

The Panel notes that:

- Section 88(1) of the EC Act provides that money in the USAF may be used for the payment of subsidies, for, amongst other things, *“the assistance of needy persons towards the cost of the provision to, or the use by, them of broadcasting and electronic communications services”*.
- The term “Needy persons” is outdated, and has caused a degree of consternation amongst various organisations and individuals;
- While the current definitions for universal service and access refer to “all persons”, it is implied that persons with disability are encompassed.
- The definition for universal service for broadcasting, however, does specify persons with disabilities as indicated above.

It is therefore recommended that:

- a) With regards to persons with disabilities:
 - i. Uniform definitions for persons with disabilities must be incorporated within all UAS definitions across government;
 - ii. The definition for “persons with disabilities” in the UN Convention on the Rights of Persons with Disabilities should be used as a basis for the South Africa definition i.e. *“those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”*.²⁵
- b) With regards to the current use of the term “needy persons”:
 - i. The term “needy persons” to be removed from all law and policy and replaced with “fund beneficiaries”.
 - ii. Policy must define categories of fund beneficiaries and that categories must be regularly reviewed.

3.6.2 Universal Service Obligations (USOs)

USOs remain a recognised and widely used tool to promote the availability of infrastructure and services to all citizens. In most countries, including South Africa, USOs initially concerned basic voice services but with ubiquitous mobile networks offering affordable voice communications, this goal may be considered to have been met in many countries. Broadband connectivity is now the main target for USOs, either in terms of households connected or access for all citizens via community broadband centres.

R37. UNIVERSAL SERVICE OBLIGATIONS (USOS)

The Panel notes that

- The SA Connect broadband policy underscores the problem with the state of USOs in South Africa, commenting on the *“failure to enforce USOs”* and reflecting the considerable public debate on their effectiveness, appropriateness and continued relevance.

²⁵ UN, ‘Convention on the Rights of Persons with Disabilities’, www.un.org/disabilities/convention/conventionfull.shtml

- The Panel agrees that the USO framework in South Africa has been weak, and that the enforcement thereof has not resulted in the desired outcomes.

The Panel therefore recommends that:

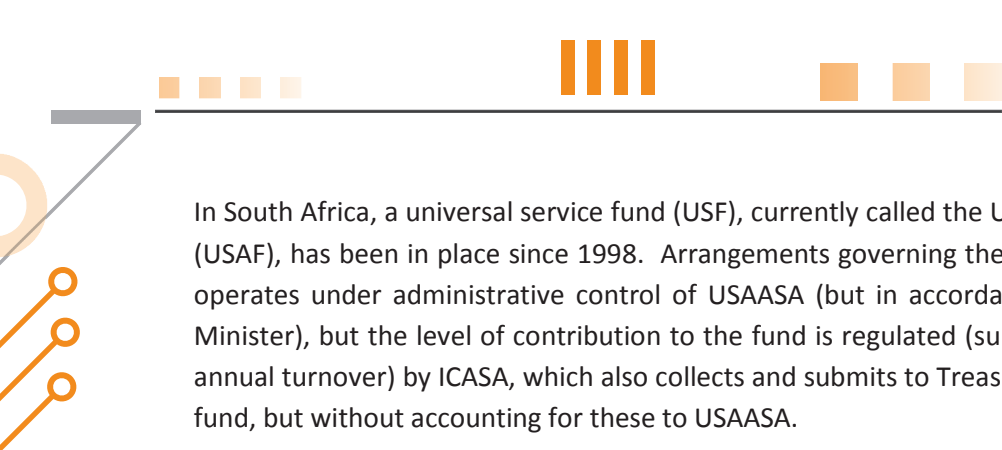
- a) An improved USO framework must be developed so that obligations are clearly defined, robust, proportionate to market share, capable of satisfaction and enforceable.
- b) A revised policy would include provisions specific to, inter-alia:
 - i. The alignment with determinations on universal access, universal service, underserved areas and other relevant definitions to be kept relevant through periodic review.
 - ii. Achieving UAS in respect of broadband.
 - iii. A “pay or play” principle to be introduced which includes explicit criteria for the translation of obligations into an equivalent monetary contribution (i.e. equitable contributions).
 - iv. A requirement for a dedicated periodic consultation process with stakeholders to consider issues, including appropriate target levels of service or access, a timeline for reaching such targets, the level of service to be provided, mechanisms for monitoring and enforcement.
 - v. Periodic reporting requirements for operators in respect of targets achieved and compliance on the part of licensees with their USOs.
- c) A revised USO framework shall incorporate provisions for making broadband Internet access available at public venues through the use of wireless technologies such as Wi-Fi, with a focus on under-served and rural areas. The obligations in this regard shall be aligned to the policy provisions in the SA Connect national broadband policy.

3.6.3 Transforming the Universal Service and Access Fund (USAF) into the ICT Development Fund (ICT-DF)

Current international approaches to universal service funds are somewhat divided. After examining 64 such funds around the world, of which a quarter were found to be “inactive”, the GSM Association (GSMA) concluded that universal service funds *“do not appear to be the most appropriate mechanism to achieve universal service and further social and economic development”*.²⁶ On the other hand, a recent ITU examination of 69 such funds worldwide, while finding similar problems of low or non-existent levels of activity, went on to make a number of strategic recommendations, including the need to ensure that funds are enabled to *“respond to rapidly changing and evolving priorities”*, that they are placed under the control of an *“independent unit”* and managed *“in a transparent, autonomous and competitive manner”* and that they need to be utilised to *“address broadband access”*.²⁷

²⁶ GSMA (2013), ‘Survey of Universal Service Funds: Key Findings’, GSM Association, London, <http://www.gsma.com/publicpolicy/wp-content/uploads/2013/04/GSMA-USF-Key-findings-final.pdf>

²⁷ ITU (2013), ‘Universal Service Fund and Digital Inclusion for all Study’, <http://www.itu.int/en/ITU-/Conferences/GSR/Documents/ITU%20USF%20Final%20Report.pdf>



In South Africa, a universal service fund (USF), currently called the Universal Service and Access Fund (USAF), has been in place since 1998. Arrangements governing the fund are somewhat complex. It operates under administrative control of USAASA (but in accordance with the instructions of the Minister), but the level of contribution to the fund is regulated (subject to a legislated cap of 1% of annual turnover) by ICASA, which also collects and submits to Treasury operator contributions to the fund, but without accounting for these to USAASA.

Disbursements from the fund are limited to “*subsidies*” in a range of areas, including “*needy persons*” (as determined by the Minister with the assistance of USAASA), network rollout by ECNS licensees (subject to competitive tender), the acquisition of services by schools and colleges, the “*establishment and operation of community centres*” offering access to ICT services, or any other area as determined by the Minister with the concurrence of the Minister of Finance.

R38. ESTABLISHMENT OF THE ICT DEVELOPMENT FUND (ICT-DF)

The Panel notes that:

- The USAF has been the subject of controversy, and has been widely criticised for failing to disburse funds on any significant scale.
- The USAF has been subject to a wide-ranging critique, including the effectiveness of its application, and that of governance;
- There is currently wide support from stakeholders for the continuation of a fund;
- The National Broadband Policy, SA Connect, highlights that there is a significant funding gap in relation to broadband infrastructure which will require support from government and the private sector if it is to be addressed. It states

“What is required are new innovative ways that blend private and government funding sources to fund not only infrastructure rollout, but also critical content development and the provision of public services online. Funding models that share investment risk between the public and private sector are emerging across the globe as the burden for funding cannot be carried by government or private sector alone.”²⁸

The Panel recommends that

- a) The mandate and sources of funding of the Fund be reviewed.
- b) The USAF evolves into an ICT Development Fund (ICT-DF) providing support for both infrastructure and demand stimulation projects, in line with proposed definitions for UAS (as recommended in Section 3.6.1.1 of this Chapter). It should be funded through private sector levies, donor funding and new incremental state funding.
- c) It may no longer be feasible to host a fund with just a single source of income from compulsory contributions from licensed operators.
- d) Properly designed and implemented, and with sufficient internal resources and expert capacity, an evolved universal service fund model has the potential to serve as a central “clearing house” for a variety of funding sources and development projects, to reduce

²⁸ DTPS, “South Africa Connect: Creating Opportunities, Ensuring Inclusion, South Africa’s Broadband Policy”, 20 November 2013, pg 22.

inefficiencies and improve coordination across the spectrum of ICT development and financing initiatives.²⁹

- e) An evolved fund must be used as a mechanism also to host income from the private sector, donors, and the state. This fund must expand its focus on, for example:
- i. Development of infrastructure in underserved areas which remain out of market reach;
 - ii. Ensuring access to a range of converged ICT applications and services to those who cannot afford;
 - iii. Promoting programmes to facilitate the *effective use* of ICTs, in especially rural areas, and amongst economically poor youth;
 - iv. Providing e-literacy skills to those who cannot afford it;
 - v. Promote the development of local content and applications;
 - vi. Funding to assist public sector adoption of ICT and applications and content for government services, including e-health and e-education.
 - vii. Funding to support small and medium-sized enterprises to use ICT to improve productivity and competitiveness.
 - viii. Funding small but important players within the ICT value chain.

The Panel therefore proposes:

f) That an ICT Development Fund (ICT-DF) be established

- i. A new funding model for ICT infrastructure *and* demand stimulation projects would be developed. The creation of an ICT-DF would allow for the aggregation of new incremental state funding with private sector funding and donor funding.
- ii. This vehicle would allow for the joint investment by the state, the private sector and donors on a scale far beyond that done previously. This fund could be a key instrument to help fund new infrastructure investment.
- iii. In addition, the ICT-DF would be used to stimulate demand including local content and applications development, ICT entrepreneurship and research and development.
- iv. The terms of the USAF must be amended so that it evolves into an ICT-DF, and provide a foundational funding source for aggregation of all funding sources.

g) That the fund abide by the following principles

- i. Alignment with the NDP which states that *“In future, the State’s role in the ICT sector will be to facilitate competition and private investment and to ensure effective regulation where market failure is apparent. Direct involvement will be limited to interventions needed to ensure universal access, such as the introduction of “smart subsidies” and to help marginalised communities develop the capacity to use ICTs effectively”* (NDP: 171).

²⁹ UNDP, “The Report of the Task Force on Financial Mechanisms for ICT for Development - A review of trends and an analysis of gaps and promising practices”.

- ii. There is a need thus to ensure that **public funds do not simply replace private investment**. Public funds must be directed, in the main, to the promotion of universal access and service in underserved areas.
- iii. A company or industry sector which receives government support shall not gain an unfair advantage over its competitors. Thus in terms of **State Aid** the use of the fund shall conform to the generally accepted norms and principles as espoused in international treaties.
- iv. Where the fund is used for infrastructure development, **an open access regime must be made compulsory**, so that the new infrastructure can be used by all service providers on fair and equal terms.
- v. **Prioritisation of public funding** must in the first instance be committed to improvement of e-Government services, improving government business process; schools connectivity of health sites of service; connectivity to improve policing (including community policing) and the delivery of justice.
- vi. In instances where the private sector jointly invests with government, a **negotiated agreement** is required upfront in terms of the rules of application, such that the fund operates on an open, transparent and fair basis.
- h) The establishment of the fund should be subject to **further investigation, research and due diligence**, so that explicit terms of reference is developed which encompasses clear guidelines for the governance, disbursement and utilisation of the fund.
- i) The terms of the fund shall provide for its independence from the national account.

R39. INSTITUTIONAL ARRANGEMENTS FOR THE ICT DEVELOPMENT FUND

The Panel considered various options regarding the management of the proposed ICT-DF. This included a split of responsibilities between the regulator, and an independent Fund Managing entity; management entirely by the Regulator; and management entirely by an independent entity.

The Panel recommends that:

- a) **Management and control** of the ICT Development Fund must be assigned to an independent entity. This would entail evolving the USAF to become a component of a larger ICT-Development Fund. This requires an amendment to current institutional arrangements.
- b)
- c) .
- d) **Dissolution processes of the current functions of USAASA must be implemented, and the Agency must evolve into an independent ICT-DF management entity as follows:**
 - i. The Agency as it currently exists should be dissolved and existing functions transferred to ICASA (regulatory functions) and to the DTPS (policy-making functions);
 - ii. All non-policy and non-regulatory functions relating to Fund management shall be retained in the new entity.
- e) **Governance and Accountability will be paramount.** The new entity would be required to publish separate annual audited statements and an annual report, and to commission independent research into the impact of the fund in achieving UAS targets.

- f) The DTSP, in consultation with other stakeholders within and outside of Government, to determine the **model of Governance** of the ICT-DF, including whether it should be governed by an independent board appointed by the Minister on the recommendation of Parliament and accountable through Parliament to the public.
- g) The new entity will develop, publish, and maintain **guidelines on the use and disbursements of the ICT-DF**. Clear and unambiguous guidelines would be published providing guidance on the scope of the fund and the procedures to be followed to access the fund. In addition, the guidelines must incorporate specific provisions on transparency so that contributors to the fund have visibility as to how the funds are utilised would be introduced. The guidelines must be aligned with the UAS definitions at all times, so as to ensure proper monitoring and enforcement.

R40. ICT DEVELOPMENT FUND CONTRIBUTIONS

The Panel, in noting the expanded scope of the proposed ICT-DF, as well as the substantive Universal access gap which prevails, recommends the following:

- a) There shall be **increased discretion in the disbursement of funding**. The current relatively stringent legislative circumscription of the disbursement of funds from the USAF would be removed. The new entity managing the ICT-DF would be required to develop criteria and an annual plan for the deployment of monies in the ICT Development fund, preferably through a public stakeholder consultative process, and subject to third party approval by Parliament, or the Minister or ICASA.
- b) The proposed **scope of the ICT-DF** should include funding for broadband deployment and uptake, and thus support infrastructure and services and the creation of demand must be taken into account.
- c) Regarding **contributions to the fund from Licensees** (As per Section 89 of the EC Act), the regulator should continue to set contributions to the Fund, in consultation with the governance structures of the new entity. The regulator has the information needed to invoice for the monies and also can insure that there is a balance between the Fund contributions and the USOs imposed on operators. In addition, the regulator must balance the Fund levy against any other sector specific taxes and fees that it may administer.
- d) Government must conduct a study to ascertain the quantum of funding that will be required given that an expanded definition of universal access will have an impact on the areas where funding will be required.
- e) Once this is established, the regulator must be directed to commence with an **immediate review of fund contributions** from licensees, taking in to account the quantum of funding required, with a view to ascertain why the current contributions should not be increased up to the one per cent of turnover currently provided for in the EC Act (Section 89 (a)).
- f) As with the MDDA, policy and legislation should ensure that funds collected are deposited directly in to the account of the independent fund management body.

3.6.4 E-Rate

The EC Act requires licensees to offer an e-rate discount of at least 50% on Internet services provided to public health establishments, schools, colleges, public further education and training

institutions and higher education institutions. ICASA's 2009 E-Rate Regulations largely restate the provisions of the ECA (ICASA, 2009).

R41. e-RATE

The Panel notes that:

- There has been a range of criticisms since the introduction of the e-rate under a 2001 amendment to the then Telecommunications Act. The 2014 amendments to the EC Act sought to address some of the criticism by ensuring the e-rate is applicable at both wholesale and retail levels.
- During the policy review process, there were calls for a comprehensive review of the e-rate, its application and its impact. This included arguments that the e-rate be extended to additional beneficiaries.

The Panel recommends that

- a) The current e-rate provisions should be reviewed against objectives set and in relation to best practice.
- b) The review must include an assessment of the funding arrangement for the e-Rate.
- c) The review must focus on developing stronger provisions to address the loopholes which have hampered implementation of e-rate to date. These include challenges in relation to the fair application of e-rate regulations on service and internet providers and ensuring that all licensees contribute towards subsidising related costs, the difficulty of ring-fencing expenses qualifying for the e-rate at schools and clarity on funding of the remaining 50% by schools that cannot afford even the reduced rate.
- d) With regards to the scope of the e-rate, there is agreement that in the interim it continues to be applied as per current scope. However the recommended review must also consider the extent that it is feasible to expand the e-rate scope to include rural clinics, and a range of other public institutions which require broadband services for their core function such as public libraries, clinics, hospitals, correctional facilities and police stations.

3.6.5 Consumer Protection and Quality of Service

The vision for the ICT policy stresses that South African users of communications services are entitled to consumer protection. As penetration of service increases there is bound to be greater concern on consumer protection in a digital environment.

R42. CONSUMER PROTECTION AND QUALITY OF SERVICE

The Panel notes that

- Policy in respect of consumer protection and quality of services is necessary to ensure:
 - ✓ The rights of consumers in the ICT sector are adequately protected;
 - ✓ Quality of service standards are appropriate, clearly specified and adequately enforced;
 - ✓ There is proper transparency and publicity on the monitoring, reporting and enforcement of consumer protection and quality of service; and
 - ✓ Concurrent jurisdiction between ICASA and the National Consumer Commission (NCC) is effectively managed in the best interests of consumers.

- Co-regulatory/self-regulatory codes of conduct have been established by both ISPA and WASPA to deal with the handling, adjudication, enforcement and publication of consumer complaints in their respective spheres.
- Particular problems which have been highlighted include the following:
 - ✓ ICASA conducts its own quality of service testing and publishes the results from time to time. Such reports are frequently criticised by the operators.
 - ✓ The EC Act requires ICASA to establish a Consumer Advisory Panel. ICASA established this Panel in 2010, but suspended it the following year.

The Panel therefore recommends

- a) A review must be undertaken to ascertain how to ensure that ICASA can more effectively fulfil its responsibilities to regulate, monitor, enforce and publicise consumer protection and quality of service codes and standards.
- b) That the regulator takes steps to establish a Consumer Advisory Panel, which must include representation from the National Consumer Commission (NCC) and from organisations representing persons with disability.
- c) Further that the role and powers of the Panel in relation to the Council/ICASA be explicitly outlined in policy and law so as to ensure that there is no confusion in relation to this. This should include a focus on consumer protection and the obligation to broadly advise ICASA on consumer issues, engage the regulator on emerging or current consumer related matters of concern and give input on pending regulations in the interest of consumers.
- d) This should include clarity on whether or not the Panel has decision-making powers and in what instances, what its primary purpose is and how it should be resourced to fulfil its functions. These powers and functions should be determined considering the objectives for establishing such a panel.
- e) That a Memorandum of Understanding is developed between ICASA and the NCC requiring collaboration on matters relating to consumer protection in the ICT sector. Policy and law should also require that the MoU be regularly reviewed.
- f) ICASA takes steps to improve public awareness of consumer rights and how to complain about alleged breaches of these. This must include a clarification of the mandates of both ICASA and the NCC and their respective roles in dealing with consumer complaints.
- g) The requirements on the regulator to publish annually information on the state of consumer satisfaction and complaints handling in South Africa should be strengthened.

3.6.5.1 Type Approvals

Type approval regulations are necessary to ensure that third party equipment connected to the communication networks meets the necessary technical parameters to prevent interference and ensures good quality of service and safety. Conformity to technical standards is therefore essential for the interoperability of the equipment and networks. Type approval regulation also protects consumers against the purchase of sub-standard devices and against illegal or 'grey' imports.

R43. TYPE APPROVALS

The Panel notes that:

- ICASA issued new Type Approval Regulations and Labelling Regulations in 2013, aimed at streamlining the type approval framework, setting fees for type approval and clarify labelling requirements for all type approved equipment.
- During the policy review process, companies involved in electronics manufacturing and distribution pointed out that the process of applying for type approvals and labelling was still often inefficient and beset by delays, resulting in loss of earnings.

The Panel therefore recommends

- a) Policy should ensure that mechanisms are put in place to ensure the type approval process is handled efficiently and effectively.
- b) Policy must also facilitate international and regional type approval harmonisation and cooperation in type approval processes to reduce bureaucracy where possible and eliminate barriers to entry into other markets.
- c) Policy must ensure that there are clear and distinct roles and responsibilities between ICASA and the South African Bureau of Standards (SABS) on type approval matters, in particular radio frequency related tests.

3.7 Spectrum management

This section focuses on recommendations regarding the planning, allocation, assignment and management of frequency spectrum, a scarce national resource, in order to ensure maximum public value. The recommendations are premised on the notion that spectrum as a public resource must be focused on delivering public value. The optimum and effective utilisation of spectrum from social, economic and technical perspectives to enable the achievement of the developmental goals as reflected in the NDP Vision 2030 is the first point of departure for the policy recommendations herein. In addition, the recommendations are in support of the National Broadband Policy and its positions regarding broadband for all.

3.7.1 Context

The 2010 Radio Frequency Spectrum Policy for South Africa characterises spectrum thus:

*"[Spectrum is a] limited natural virtual resource where, in certain frequency bands, the demand for spectrum far exceeds the amount of spectrum that is available. The radio spectrum is available equally in every country, and is a resource limited by technology and management capability. It is not a consumable resource. Management of the radio-frequency spectrum is subject to Government authority and spectrum must be managed efficiently so as to be of greatest benefit to the entire population."*³⁰

Issues raised during the policy review process in relation to radio frequency spectrum (hereafter "spectrum") include concerns about spectrum pricing, and future demands for spectrum in the "information age".

³⁰ RSA, 'Radio Frequency Spectrum Policy for South Africa', *Government Gazette*, No 33116, 16 April 2010.

3.7.2 Spectrum Policy Objectives

The 2005 EC Act provides guidance to the regulator in terms of the allocation and assignment of spectrum, focusing on issues such as efficiency, avoidance of interference, harmonisation with ITU agreements and compliance with the national band plan, taking into account the needs of security services, and the promotion of digitisation.

R44. OBJECTIVES OF SPECTRUM POLICY

The Panel strongly endorses the principle that spectrum is a valuable *national public resource*, and as such must be focused on delivering public value. The Panel further notes that

- The 2010 Radio Frequency Spectrum Policy for South Africa³¹ sets out eleven policy objectives that should be met.
- There have been calls in the policy review process for a clarification of the *underlying objectives* to guide spectrum management and the principles underpinning these to ensure **effective and efficient management of radio frequency spectrum to ensure agility, flexibility and adaptability in spectrum administration.**

The Panel therefore recommends that a review of the current policy be undertaken so that:

- a) Policy objectives and rules are clear, concise and aligned with ITU guidelines. The new policy should focus on ensuring effective and efficient management of spectrum to ensure agility, flexibility and adaptability in spectrum administration.
- b) Policy objectives should be, unambiguous, measurable, achievable, realistic and time dependent. Current objectives should be reviewed to ensure this.
- c) The policy objectives must be stated in accordance with a set of broad principles for an effective spectrum policy and management regime that serves to achieve economic and social benefits for South Africans.
- d) Policy objectives should be aligned with the SA Connect national broadband policy especially with regards to universal access and service in rural areas.
- e) The review should take into account convergence, technology trends, and access issues.
- f) The review must ascertain which objectives are to be incorporated into legislation.

The Panel further notes in respect of this recommendation, the recent re-arrangements by government (splitting of Departments into the DTPS and DoC). In this regard the Panel reiterates that government's approach to spectrum policy be holistic. The Panel thus urges that spectrum and any related policy interventions must take place via active consultation and engagement by the two Ministers and their departments. In addition the Panel wishes to draw attention to several submissions which have underscored that spectrum policy must be informed by the needs of the entire industry including those of broadcasters.

3.7.3 Principles underlying spectrum management

As highlighted, in the preceding section, it has been proposed that a set of policy principles be clearly articulated to ensure a consistent regulatory and management framework.

³¹ RSA, 'Radio Frequency Spectrum Policy for South Africa', Government Gazette, No 33116, 16 April 2010.

R45. PRINCIPLES OF SPECTRUM MANAGEMENT

The Panel recommends that the review of spectrum policy proposed in the preceding section, take into account the following *suggested principles*:

- a) **Recognition that allocation and management of spectrum takes place on a global platform:** South Africa, together with international partners must influence global policies such as those at the ITU, to ensure that these do not, even inadvertently, negatively impact on the developmental objectives of the country.
- b) **Managing unused licensed spectrum:** The hoarding of spectrum by users is not conducive to efficient spectrum usage and this practice should be discouraged at all costs. Spectrum management policy should strictly apply “use it or lose it” principles to all spectrum licensees. Passive science services, due to the nature of their operation, will be exempt from this provision.
- c) **Priority of access to spectrum related to safety of life (currently a policy objective):** The international spectrum regulatory framework has as one of its founding principles the availability and protection from harmful interference of frequencies provided for distress and safety purposes. A safety service is any radio-communication service used permanently or temporarily for the safeguarding of human life and property. It is recognised that safety services require special measures to ensure protection from harmful interference and this must be taken into account in the assignment and use of frequencies. Priority of access to spectrum must be given to safety of life services including public safety and security communications.
- d) **Allocation of spectrum for research, development and innovation (currently a policy objective):** The radio spectrum facilitates a range of scientific applications used for research purposes. Currently, radio frequency spectrum for trial and testing is assigned on a case-by-case basis. A proposed research and development spectrum allocation will encourage a research and development mind-set. In addition scientific applications should not compete for spectrum with commercial applications. It is in the national interest that the needs of active and passive scientific research are taken into account when allocating spectrum. In addition, spectrum policy must be crafted to spur entrepreneurial activity and innovations among local companies to grow the electronics manufacturing and software development sector.
- e) **Spectrum for wireless technologies:** Wireless technologies are more appropriate for the provision of electronic communication services in rural areas due to the population distribution, lack of infrastructure, terrain etc. Spectrum usage should therefore be used to promote the goals of universal access and service especially in rural areas.
- f) **Contiguous frequency assignment:** The adoption of contiguous frequency assignments to promote spectrum sharing, as this is the most spectrum efficient and feasible means to encourage this.
- g) **Holistic approach to spectrum planning to accommodate additional multiplexes:** Spectrum plans must adopt a holistic approach accommodating the creation of additional multiplexes and catering for future spectrum needs for broadband, Digital Terrestrial Television (DTT), digital radio as well as possible future technologies to ensure capacity for new audio-visual and content services.
- h) **Regular spectrum audits** are necessary to weed out any 'ghost' services.

3.7.4 Spectrum planning and management

The management of the radio spectrum combines administrative, regulatory and technical procedures to ensure the efficient operation of radio communication equipment and services. Spectrum management is the overall process of regulating and administering access to and use of the spectrum. A primary goal is to ensure optimal use of radio spectrum in social, economic and technical terms. As demand for spectrum increases, so too should our planning and management regime. However, the issues of spectrum planning have been under the spotlight over recent years, and thus require a careful re-think of the status quo.

R46. SPECTRUM PLANNING AND MANAGEMENT

The Panel recommends that the following approaches/issues in respect of spectrum management be considered and reinforced in the revised spectrum policy:

- a) Flexible use of spectrum be permitted to the extent possible;
- b) Harmonisation of spectrum use with international allocations and standards be endorsed, except where national interests warrant a different determination;
- c) The need to make spectrum available for use in a timely fashion;
- d) The facilitation of secondary markets for spectrum authorisations;
- e) The need to impose clearly defined obligations and privileges associated with spectrum authorisations;
- f) The need to ensure that appropriate interference protection measures are in place;
- g) Mechanisms to be strengthened to reallocate spectrum where appropriate while taking into account the impact on existing services and users;
- h) Ensuring timely and effective enforcement of rules and requirements and that penalties are commensurate with the risks posed by non-compliance.

3.7.4.1 Spectrum allocation

Spectrum allocation is defined by the ITU as “*entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space radio-communication services or the radio astronomy service under specified conditions*”. In terms of the current provisions of the EC Act, the Minister represents South Africa in the ITU. This includes the allocation of the radio frequency spectrum to various radiocommunication services. The radio frequency spectrum is a national resource, much like water, land, gas and minerals. Unlike these, however, spectrum is reusable.

Spectrum allocation must be conducted in a manner which mitigates radio spectrum pollution and which maximises the benefits of usable radio spectrum, such that they contribute to the development and transformation goals of South Africa.

R47. SPECTRUM ALLOCATION

The Panel notes that:

- Spectrum policy should be driven by the objective of efficient spectrum usage and that the policy must provide overarching guidance for the utilisation of spectrum in the broad public interest.
- Spectrum management and allocation must take place within a coordinated and harmonised national approach to spectrum usage, with set conditions for the availability and efficient use of radio spectrum by various services to support specific national objectives and to provide greater predictability and certainty to current and future use.
- Policy certainty with respect to spectrum is seen as crucial to the development of a favourable investment climate.

The Panel therefore recommends that policy regarding spectrum allocation be reviewed to ensure alignment with the following:

- a) **There should be spectrum provision for an open access network:** An open access model is advocated in the SA Connect broadband policy to facilitate competition and ensure universal service and access is achieved. High demand spectrum should thus be set aside for an open network that will sell wholesale access to new and established operators.
- b) **Must-carry obligations must be enforced for high demand spectrum recipients:** All operators given access to the so-called “high demand spectrum” must be subjected to minimum obligations to allow other service providers to access their networks. The regulator is thus required to specify the bands which constitute “High demand spectrum”, and should revise this categorisation periodically.
- c) **Spectrum band harmonisation:** Spectrum policy must provide for spectrum band harmonisation including the adoption of contiguous band assignments to promote sharing of spectrum.
- d) **Competitive bidding:** In terms of spectrum pricing, it is important for the price charged to reflect the true value of spectrum as a scarce resource. For this to take place, a competitive bidding process needs to be accommodated in the spectrum assignment model.
- e) **The need for more multiplexes to accommodate future terrestrial broadcasting and services:** In order to accommodate future television technologies like High Definition, Ultra High Definition and 3D more multiplexes should be catered for during the digital migration phase.
- f) **Licence exempt spectrum** bands must be determined, by the regulator.

3.7.4.2 Role of the Minister

The ITU convenes World Radio-communication Conferences (WRCs) every four years. The purpose of a WRC is to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of spectrum. Following each WRC, South Africa updates its national allocation plan in accordance with the decisions taken in so far as these affect the Republic. Following approval of the national allocation plan by the Minister, ICASA is then able to assign spectrum (licence operators) within the allocation framework.

The foregoing provides a description of the status quo. There have however been calls for a review of the roles and functions in relation to spectrum allocation.

R48. ROLE OF THE MINISTER IN SPECTRUM ALLOCATION

The Panel noted that there have been calls in the course of the policy review for a reassessment of the roles and functions of the Minister and regulation in relation to spectrum allocation.

The Panel recommends that the policy review being proposed (*see Spectrum planning and management above*) include in its purview an assessment of the Minister's role in spectrum allocation.

3.7.4.3 Spectrum Assignment and Licensing

ICASA is responsible for assigning spectrum to licensees. Traditionally spectrum has been assigned through a comparative administrative process, or on a first-come first-served basis – dependent on the nature of the licence. The EC Act and the National Spectrum Policy, however, provide that when there are competing applications or the demand for radio frequency spectrum exceeds the amount available, other approaches, including market approaches, could be adopted for the assignment of frequencies.

Market based approaches to spectrum management such as spectrum auctions, spectrum sharing, and spectrum trading are considerations for certain licences. In such instances, spectrum is placed in the hands of users that most value spectrum. This also enhances efficient use of spectrum.

R49. SPECTRUM ASSIGNMENT AND LICENSING

The Panel notes that

- Spectrum auctions can give government the best revenue but could favour stakeholders with substantial resources and therefore not necessarily result in the greatest value. Auctions should thus be considered with discretion.
- This implies reservation of some spectrum for smaller or new players and the setting of spectrum caps for others.

Having considered the range of options, and submissions, the Panel recommends that

- a) A hybrid assignment model which combines elements of the current regime and market-based and spectrum commons approaches be pursued.

3.7.5 Spectrum Pricing

One way of managing demand for a limited resource is to charge fees for its use. Spectrum users are therefore required to pay for the privilege of using this resource through spectrum fees.

R50. SPECTRUM PRICING

The Panel notes that:

- Spectrum fees reduce the rationale for “hoarding” spectrum.
- Spectrum is not “owned” by a licensee.

The Panel therefore recommends that

- a) The fees to be paid for the usage of the radio frequency spectrum should be based on factors that take into account the inherent properties of the radio frequency spectrum, such as the frequency band, congestion in the particular band, and other factors such as bandwidth, coverage, degree of loading, spectrum efficiency of the equipment used, economic factors and geographical area of operation.

3.7.5.1 Spectrum pricing for all user services

Section 7 of the National Radio Frequency Spectrum Policy of 2010 provides that all spectrum users should be liable for the payment of spectrum fees unless the spectrum user is exempted from payment through appropriate policy directions issued by the Minister.

South Africa introduced the Administrative Incentive Pricing (AIP) model in 2012. The goal of AIP is to promote efficient spectrum use. Prices are set by the regulator at a level that seeks to promote efficient spectrum use and not simply recover spectrum management costs. The idea is that if spectrum pricing reflects its value, a user with unused or underutilised spectrum will choose to return it rather than pay the charge.

The current spectrum pricing regime does not distinguish between licensees that use the spectrum for commercial purposes to generate profit and licensees that use the spectrum for non-commercial purposes.

R51. SPECTRUM PRICING: COMMERCIAL AND NON-COMMERCIAL USES

The Panel recommends that:

- a) The spectrum pricing model be reviewed to recognise the difference between non-commercial and not-for-profit use of spectrum, within the administered incentive pricing (AIP) model.
- b) That spectrum pricing must be in line with the spectrum policy which has been recommended for review.
- c) ALL spectrum holders (regardless of commercial, non-commercial, or non-profit status) and regardless of use, must be audited to ensure efficient utilisation such that use it or lose it principle is applied without discretion.

3.7.5.2 Spectrum pricing for government services

The use of spectrum by Government is essential for, among other things, national safety and security and aeronautical and maritime applications. As Government at various levels begins to turn to the Internet to increase efficiency of service delivery, it will need spectrum allocation.

R52. SPECTRUM PRICING FOR GOVERNMENT SERVICES

The Panel notes that:

- Government departments in their submissions to the Panel have lamented the high costs of accessing the spectrum to deliver public services.
- Questions have been raised as to whether government should use public funds in the delivery of public services to pay for the use of a public resource.
- There are concerns that public entities are required to pay the same fees as commercial entities.
- There are concerns that if government does not pay for services that could result in spectrum hoarding and / or ineffective use of spectrum.

The Panel therefore recommends

- a) That the spectrum pricing model be adjusted to ensure that there are no fees payable for spectrum which is used for necessary and essential government and public services. Policy should clearly define what is meant by government and public “services” to ensure that the term clearly applies to public interest *services* and not institutions. This may include, for example, safety and security, national defence, aeronautical, maritime, education, and health services.
- b) ICASA must decide on the processes to be applied to satisfy itself that exemption is only granted to such public interest services.
- c) Government users in this category will have to file regular reports on utilisation and the use it or lose it principle should be strictly applied.

MINORITY RECOMMENDATION: *The policy maker in reaching a decision on this should note that such a policy has the potential to:*

- *Contradict the key AIP objective of setting spectrum fees reflective of the market value of spectrum.*
- *Stifle technological innovation as there is no incentive to optimise spectrum utilisation.*
- *Promote spectrum hoarding and the inefficient use of this scarce resource.*
- *Negatively impact on broadband roll-out as key IMT frequency bands may be hoarded by a particular department/sector.*
- *Negatively impact the Authority’s ability to recover spectrum management costs.*

If a “no fee” policy is applied to public services, legislation and policy should ensure that the term is narrowly defined and so its application is limited.

3.7.5.3 Compensation for the cost of migration

Migration or re-farming of spectrum is a recognised feature of spectrum management. Currently there is no policy on compensation for the costs incurred by licensees in migrating services from one frequency band to another.

The 2013 frequency migration plan stipulates that the users of spectrum to be migrated shall not be entitled to be compensated for the cost of the migration, and “to the extent that if possible, the cost of migration should be minimised by considering, amongst other things, the duration of the licence and economic life time of the equipment”.

R53. COMPENSATION FOR THE COSTS OF MIGRATION

- a) The Panel recommends that the following approaches all be recognised in policy, and that a decision on which is applicable to be decided on a case by case basis by the Minister:
 - i. Incoming licensee compensates the outgoing licensee for the cost of migrating.
 - ii. The licensee that is required to migrate covers its own costs.
 - iii. Migration preferably occurs at the end-of-life of equipment when costs are minimal.
 - iv. A portion of proceeds from the sale of spectrum (e.g. the digital dividend) would be used to fund migration.
- b) Further, decisions regarding migration shall take into account International agreements between the South Africa and the ITU.

3.7.6 Spectrum trading

Spectrum trading is complementary to other market-orientated mechanisms for allocating spectrum. Spectrum trading should be allowed, for example, in certain bands used for civil telecommunication in order to simplify authorisations. Policy reforms in this regard will facilitate the migration of spectrum to those that can generate the greatest value for society and promote the efficient and optimal usage of spectrum by enabling more licensees to obtain access without having to depend only on the regulator for frequency assignments.

The 2014 amendments to the EC Act (Section 31(3)) provide that ICASA may, taking into account the objects of the Act, prescribe procedures and criteria for

- The amendment, transfer, transfer of control, renewal, suspension, cancellation and withdrawal of radio frequency spectrum licences; and
- Permission to assign, cede, share or in any way transfer a radio frequency spectrum licence, or assign, cede or transfer control of a radio frequency spectrum licence as contemplated in subsection.

R54. SPECTRUM TRADING

The Panel notes that

- The EC Act currently provides for trading.
- There is no clear value proposition in respect of trading given that trading of a public resource does not necessarily automatically result in public value.

The Panel therefore recommends

- a) Government review the current provisions for trading, taking into account the concerns noted above.

MINORITY RECOMMENDATION: The status quo in respect of spectrum trading prevails – i.e. it be allowed, subject to regulation by ICASA.

3.7.7 Spectrum Sharing

Increased spectrum sharing will become more and more important to address scarcity of available spectrum. In a given spectrum band, adoption of one form of spectrum-sharing usually precludes

many other sharing possibilities. Since policy must change slowly to protect legacy systems, a policy decision in favour of one form typically precludes the alternatives for many years.

R55. SPECTRUM SHARING

- a) The Panel recommends that policy must provide for spectrum sharing.
- b) However, each instance of spectrum sharing shall require rigorous oversight from the regulator so that the principle of fair competition in the market is maintained.
- c) The Panel therefore recommends that **Hybrid Hierarchical Access Model** be pursued, built upon a hierarchical access structure with primary and secondary users, such that it is a hybrid of:
 - i. **Dynamic Exclusive Use Model:** The basic structure of the current spectrum regulation policy would be maintained and spectrum bands licensed to services for exclusive use. Flexibility would, however, be introduced to improve spectrum efficiency. Two approaches which may be considered include that of **Spectrum property rights** and **Dynamic spectrum allocation**.
 - ii. **Open Sharing Model (spectrum commons):** This model uses open sharing among peer users as the basis for managing a spectral region. Advocates of this model draw support from the success of wireless services operating in the unlicensed ISM band (e.g. Wi-Fi). Centralised and distributed spectrum sharing strategies have been initially investigated to address technological challenges under this spectrum management model.

3.8 Emerging issues

Technologies are innovations that are commercialised and mainstreamed so that some value is derived. The continuous deriving of value from a technology defines the trend of that technology. A key factor in measuring a trend is its ability to impact, evolve and transform businesses and individuals. Generally there are two categories of trends, viz. disruptor and enablers. Disruptors are trends that create a sustainable positive disruption in transforming business, government and society. Enablers can be defined as technology developments that alone or in combination with related technologies, provide a way to generate giant leaps in performance and capabilities of a user or user group.³²

Recommendations in this sub-section concern two of the emerging issues which requiring policy consideration. The intention is not to provide an exhaustive list of trends, given that technology innovation is constantly taking place. Given the effect of Moore's Law,³³ it is becoming increasingly difficult to predict the effect of faster processors and more compact devices.

³² Deloitte. 2014. What are technology enablers; and why are they relevant?

[online: <http://deloitteblog.co.za/2014/02/06/what-are-technology-enablers-and-why-are-they-relevant/>]

³³ Moore's Law is a computing term which originated around 1970; the simplified version of this law states that processor speeds, or overall processing power for computers will double every two years. See <http://www.mooreslaw.org/>

3.8.1 IP based technologies

The Internet Protocol suite brings together different transmission layer protocols into a single, standardised protocol architecture, which can be utilised by applications for different communication purposes. As a result, any application that supports TCP/IP will also be able to communicate over any IP-based network. The predominantly used IP based technologies in the current era are Voice over IP (VoIP), Internet Broadcasting, and Wireless Mobile Technology.

R56. IP BASED TECHNOLOGIES

The Panel notes

- The shift to IP-based technologies presents a major challenge to the current regulatory framework that still to some extent distinguishes between electronic communications network operators based on the kind of platform they operate on.
- In theory, electronic communications licensees could offer any type of service and data, but the current legislation requires the holding of a broadcasting licence to offer broadcasting services.
- The current provisions do not fully take into account the inherent capabilities of the IP-based network to transmit any kind of data to any device that can receive it.
- The effects of IP based technologies include:
 - ✓ Service providers offering equivalent voice and data services which are not regulated;
 - ✓ A growing user demand and sophistication exerts growing pressure on spectrum;
 - ✓ An increasing pressure for networks and services to become more interoperable, with users expecting to transfer seamlessly between networks;
 - ✓ Increased pressure on regulation to keep up with the market changes;
 - ✓ The need for regulators to ensure an even and competitive landscape for services for all players, which by implication is a requirement to level the playing field via policy.

The Panel therefore recommends:

- a) That the already adopted principle of technology neutrality be further reinforced and that government conduct regular reviews to ensure that legislation and/or approaches do not inadvertently mitigate against this.
- b) All existing laws and approaches should be reviewed to ensure they are in line with this principle.

3.8.2 Over-the-top (OTT) services ³⁴

Many users of communications services are currently using OTT services. OTT refers to services provided over the Internet rather than solely over the provider's own managed network (OECD, 2013, p. 20).³⁵ Examples of OTT services include chat applications (e.g. WhatsApp, WeChat, Facebook Messenger), streaming video services (e.g. Netflix, Amazon Prime, YouTube), voice calling

³⁴ Note: Internet based broadcasting-like OTT content services are dealt with extensively in the Audio-visual Chapter.

³⁵ http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2418792

and video chatting services (e.g. Skype, Google Hangout, Facetime) and new services such as videogame streaming (e.g. Twitch).

R57. OVER-THE-TOP (OTT) SERVICES

The Panel notes:

- The implications of OTT services in economic terms, is that OTT players which rely on IP based networks to reach their customers do not make any direct contribution towards the cost of rolling out infrastructure/the network. Some network service providers have argued this causes them harm.
- There were differing views on whether or not OTT services should be regulated.
- The following points about OTT services, which have been put forward by the ITU ³⁶:
 - ✓ Proliferation of content and applications services is to be welcomed – they add utility for users.
 - ✓ Change is inevitable. As network operators migrate to next generation networks, voice services will become software applications riding over the network. During this transition, policy-makers are finding different paths to balancing innovation, investment and competition.
 - ✓ Regulators cannot hold back the tides of change to maintain the status quo.
 - ✓ These changes are disruptive and inconvenient for those with a stake in existing arrangements, but the benefits of change outweigh the costs.
 - ✓ Regulators generally support innovation. They prevent fixed and mobile operators from blocking or degrading competing services.

Having considered all of the submissions, and taken note of the debate regarding OTT both in South Africa and elsewhere, the Panel recommends that:

- a) For now a wait-and-see approach is taken so as not to stifle innovation.
- b) The impact of OTT services though should be continually monitored and regulatory intervention introduced if it is deemed necessary.

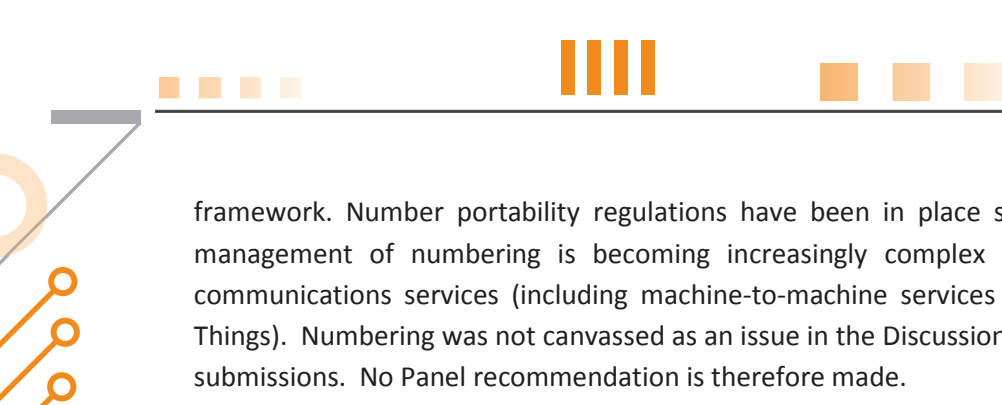
3.9 Further issues to be considered

The following issues in relation to ICT infrastructure were not included in the policy review. These were not deliberately omitted. These issues were not identified throughout the various processes of discussion, research, and consultation. Nevertheless, they are highlighted here, so that Government may consider their relevance when developing the final Integrated ICT White paper.

3.9.1 Numbering

Telephone numbers are a finite national resource. ICASA is solely responsible for developing the numbering plan, for prescribing regulations in respect of numbering and number portability, for maintaining a numbering database and for ensuring integration with electronic numbering. It published revised numbering regulations in 2012, largely focused on a number management

³⁶ITU-infoDev "ICT Regulation Toolkit: Regulating 'Over-the-Top' Services", undated, <http://www.ictregulationtoolkit.org/2.5.1>



framework. Number portability regulations have been in place since 2005. The regulation and management of numbering is becoming increasingly complex with the introduction of more communications services (including machine-to-machine services and the anticipated Internet of Things). Numbering was not canvassed as an issue in the Discussion Paper, and was not raised in the submissions. No Panel recommendation is therefore made.

3.9.2 Licensing framework for electronic communications networks and services

The Electronic Communications Act sets out the current technology neutral licensing framework. In addition to spectrum licences, the framework caters for the broad categories of infrastructure (ECNS), services (ECS), broadcasting services (BS) licences. Licensing is further broken down by scope between individual (mainly at national or provincial level) and class (mainly at a district or municipal level) licences, and licence-exempt activities (such as reselling). Except in the case of individual ECNS licences (which still require a ministerial Invitation to Apply), licensing is fully under the control of ICASA. Concerns have been raised in other fora about the provisions in respect of 'resellers', and as to whether Ministerial involvement in individual ECNS licences remains relevant. Notably, this issue was not canvassed in the Discussion Paper; therefore, no Panel recommendation is made.

3.9.3 Signal distribution

The current policy and law provides for a common carrier distributor of broadcasting and multichannel signals (Sentech), the possibility of other ECNS licensees providing broadcasting signal distribution (Orbicom is the only licensee) and self-transmission by licensees (several community licensees transmit their own signals). The common carrier must provide signal distribution to broadcasting licensees on request on a reasonable, equitable and non-discriminatory basis. Signal distribution tariffs, including fees for community broadcasters, have been raised in various fora. However the issue of signal distribution responsibilities was not canvassed in the policy review process, and thus may warrant further investigation by the DTPS.



4 The Digital Society³⁷

4.1 Introduction

This Chapter is premised on an understanding that ICTs are tools which facilitate social and economic development. The policy recommendations in this Chapter hone in on issues which impact on the *use* of ICTs. The importance of this Chapter thus is that the policy issues herein target issues which are closest to the citizen. The Chapter thus underscores that importance of ICTs, especially when used on broadband Internet platforms, for the development of a dynamic information society. The policy recommendations in this Chapter thus must work synergistically with the recommendations in other parts of this report, so as to attain the WSIS-framed goals of an Information and Knowledge Society, including that on universal service and access to the Internet and to other ICTs.

The Policy Recommendations in this Chapter furthermore provide a basis for developing the principles and strategies necessary to finalise a holistic national e-strategy to ensure a coordinated approach to building an information society. It builds on existing strategies, including South Africa's national broadband policy, *'South Africa Connect: Creating opportunities, Ensuring Inclusion'*, adopted in 2013.

It should be noted that the promotion of universal access to affordable broadband and other platforms is dealt with in Chapter Three (Infrastructure and Services), skills development in Chapter Six (Industry Growth) and audio-visual content (including broadcasting and broadcasting-like content) in Chapter Five. While these are referred to where necessary (e.g. regarding accreditation of electronic signatures), Policy Recommendations for Infrastructure and Services deals extensively with the role of SAPO in general including its role in promoting and supporting e-government, e-commerce and other services.

This Chapter thus focuses on digital services (including e-government services), the digital economy (and e-commerce) and the issues necessary to promote trust and confidence (including privacy provisions, protection of consumers, cybercrime and cybersecurity). The primary focus is on the ambit of the DTIS and its roles and responsibilities as well as those of the agencies aligned to it. In addition, given that a dynamic information and knowledge society relies on cooperation and coordination between all spheres of government, the private sector, civil society and citizens, issues related to other entities are also dealt with to some extent with a focus on how to facilitate the partnerships necessary to achieving the vision.

³⁷ NOTE: The recommendations in this Chapter are presented against the backdrop of a more detailed discussion of policy issues, presented in the Discussion paper, Chapter 4, pp 103-147.

4.2 National Policy Context

The recommendations in the Chapter must be viewed in the context of relevant National policies. These include:

- The National Cyber Security Framework which was approved by Cabinet March 2012, the oversight of which is being undertaken by the Cabinet Justice, Crime Prevention and Security Cluster.
- The Digital Future: A Public Service IT Policy Framework, which is an e-government policy developed by the Department of Public Service and Administration (DPSA) in 2001. It is currently being reviewed.
- The King III and Companies Act, with a focus in particular on the chapter on information technology governance.
- Other policies relevant to building a digital society, including the Minimum Information Security Standards and the Minimum Operability Standards. Both of these need to be updated but are in place.

4.3 Overall policy approach

R58. PRINCIPLES FOR DEVELOPING DIGITAL SOCIETY POLICY

The Panel notes that

- Policy will need to be flexible, people-centred, rights-based and must balance the need to promote innovation with that of protecting users.
- Creative policy interventions will have to be developed in order to protect individual rights while ensuring regulation does not inadvertently constrain economic development.
- Digital technologies and e-strategies are not ends, but tools to assist the public, private and non-governmental sectors to fulfil their transformation goals.

It is recommended that the following principles are adhered to when developing policy and legislation related to the Digital Society:

a) Inclusive development

- i. The most important principle that underpins all policy recommendations in this Chapter is that of ensuring inclusion and that all South Africans can access and interact with the benefits of building a digital economy and information society. This is in line with the SA Connect Broadband Policy and the NDP.
- ii. Inclusive development requires not only access to infrastructure, devices and affordable services, but also to content, information, digital products, services and applications. It is critical that these are developed in a bottom-up paradigm such that they are relevant to the most disadvantaged sectors of society, support welfare and entrepreneurship and are available in a range of South African languages.
- iii. The role and the voice of ordinary South Africans in the policy process, especially the digitally disenfranchised, is therefore critical in shaping Digital Society policy.

b) User-centred design of e-Services

- i. E-government and other e-services and applications will further have to consider the different technologies used by different sectors of society and, for example, design applications recognising that many users will be, at least in the medium term, reliant on mobile technology and less sophisticated mobile phones. The costs of accessing data will also have to be taken into account.

c) Accessibility by persons with disabilities

- i. Accessibility and inclusion by persons with disabilities is another critical aspect to address in ensuring universal access and should be built into all policy approaches and considered in developing innovative services and solutions.

d) Open access

- i. As emphasised in the National Broadband Policy, open access and the promotion of interoperable platforms and standards should be another primary focus of government policy if the full benefits of the digital society are to be reaped, and fair competition between new and existing companies and large firms and SMMEs facilitated. The impact of new technologies and the Internet on competition will need to be continually assessed to address any new challenges that might arise.

4.4 Government approach

The building of a dynamic and vibrant information society and digital economy requires coordination across a range of government departments and public entities and will be dependent on relationships and partnerships between government, the private sector, non-governmental organisations (including organisations for persons with disabilities) and civil society.

R59. A COORDINATED APPROACH TO DEVELOPING DIGITAL SOCIETY, INCLUDING E - GOVERNMENT POLICY

It is noted that

- Government has a critical role to play not only in developing policies in relation to e-government, e-commerce and e-services, but also in providing South African best practice models in relation to the provision of such services.
 - There are currently a number of different e-policies and strategies in place, and different instruments assign responsibility for an e-strategy to different parts of government such as the DPSA (2001 national e-government policy), DTPS (national e-strategy as per the ECT Act) or Information Society Development (ISAD) plan (2007).
 - The NDP calls for the finalisation of a national e-strategy that cuts across government departments and sectors of society.
 - The achievement of the broad objectives related to the Digital Society requires coordination across a range of government departments and entities. This is crucial as is the need for alignment of the different laws in place.
- 

- Throughout the policy review process the need for increased cooperation between the different spheres and entities of government was consistently highlighted.
- The lack of agreed mechanisms for coordination and cooperation results in “turf-wars” between government departments.

The following recommendations are thus proposed:

The Panel supports the various calls for urgent improved coordination and strongly supports the use of multi-departmental mechanisms to deal with cross cutting issues.

- e) The need for greater coordination of strategies and implementation of digital policies across government requires that a central structure be established to drive a whole-of-government approach and develop a national e-government policy and strategy. This will assist in aligning various initiatives across government and in ensuring accountability...
- f) The national whole-of-government policy and strategies should be coordinated from the Presidency. It must be aimed at facilitating transformation and improvement in public services.
- g) Effective multi-stakeholder forums should be established, including the public, private, academic and civil society sectors, to ensure awareness and joint action.
- h) Government must assess and take steps towards ensuring the best mechanisms are in place to ensure improved coordination of all of the relevant cross-cutting issues so as to realise a dynamic and vibrant information society and digital economy.
- i) The policy should be regularly reviewed and its impact assessed so that any challenges in achieving objectives are addressed. The policy should set out the scheduling and process for such reviews.

4.5 E-Government

E-government is “*the use of ICT and its application by the government for the provision of information and public services to the people*”.³⁸ It includes the use of technologies and associated processes to make government work more efficient, to strengthen public service delivery and enhance communication channels with citizens, using a combination of the following modes:

- Government to Government programmes (G2G);
- Government to Citizen programmes (G2C);
- Citizen to Government programmes (C2G); and
- Government to Business programmes (G2B).

The Minister of Public Service and Administration is responsible for government’s overall e-government strategy in terms of the Public Service Act. The DPSA developed an e-government strategy in 2001, close to fifteen years ago, and is currently reviewing this. The ECT Act notes that an e-strategy must incorporate an e-government strategy and plan and emphasises the need for consultation and coordination between the DPSA and DTPS and other government departments, spheres and public entities. An Intergovernmental Task Team has been established to develop the

³⁸ United Nations, “E-government Survey 2014”, Executive Summary, page 2, <http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/0ExecutiveSummary.pdf>

“National e-Government Strategy 2030” in recognition of this. It is led by the DPSA and the DTPS is part of the team.

4.5.1 A Single National e-Government Strategy and Policy

Although there have been several attempts to address e-Government programmes, these remain disparate and uncoordinated. The citizen as a consequence is faced with a myriad of electronic interfaces. In addition there are too few instances of e-Government which have moved into a transactional citizen-facing phase. A key issue going forward is the need for a holistic e-Government strategy, policy, and an implementation plan.

R60. A SINGLE E-GOVERNMENT STRATEGY AND POLICY

The Panel notes that in the current era e-government straddles more than one government department/entity. It therefore strongly recommends that

- a) A single holistic “whole-of-government” national e-Government Strategy and Policy is urgently adopted. This must include clear lines of responsibility and accountability across government and should be driven from the Presidency and apply to all spheres of government where relevant
- b) Such a policy must strike a balance between top-down direction and bottom-up initiative, unified infrastructure and services and sector-owned solutions if warranted and investments.
- c) An implementation plan must also be urgently finalised.
- d) An institutional review is crucial to determine responsibility for different components of the e-strategy. This should include an assessment of the role that ICASA should play in encouraging demand and contributing to a shared vision of the digital economy.

It is further recommended that:

- e) The National e-Government policy must provide an **overarching framework** which seeks to deliver e-services to the citizenry and transform the way that public services are delivered. Individual government departments must still retain responsibility for their individual mandates, but must adhere to the policy framework, and coordination guidelines in implementing specific e-government services.
- f) The National e-Government strategy must focus on both **internal efficiencies** and the promotion of **open governance** externally.
- g) The national strategy and associated policies must be **citizen focused**. It is recommended that the core objectives of the strategy must focus on the delivery of e-services which meet citizen’s needs.
- h) The strategy must further focus on the **empowerment of citizens to participate** actively in the country, to the extent that the goal of improved social cohesion may be attained. In this regard, there must thus be provisions for **e-democracy** and Parliament must be involved in the development and implementation of such a strategy.

- i) The national strategy must further focus on **building capacity within government** to increase efficiency and lower costs of governance, improve transparency and accountability of government (including information and knowledge management).
- j) The coordination of e-government implementation is crucially important. Individual citizens must experience a **seamless interface to electronic services**, and therefore particular attention must be given to the coordination of the development of a **standard architecture for e-services** interfaces across all four stages of e-government and the implementation thereof. This must also entail a total **re-engineering of government data warehouses** such that data redundancies are eliminated and that data integrity and data quality is improved.
- k) Effective e-Government will be enhanced through **improved partnerships** between government departments and different spheres of government, with the private sector and universities (for research and training). It is therefore recommended that e-Government policy include a framework within which such partnerships may be harnessed.
- l) The national e-Government policy must also make provisions for **m-government**, integrate different delivery platforms (including the DTT platform), address the **needs of women** (based on an assessment of the position of women and their access to technology) and the adoption of **Green ICT principles**.
- m) Related policy which impacts on the effective delivery of e-services must also be assessed, and updated where necessary. This includes the **Minimum Information Security Standards** (which predates the digital era).
- n) E-Government policy must explicitly support the **growth of the South African ICT industry**. It is therefore recommended that provisions are included in the national policy that preference be given to local products (including hardware and software) and strategies for the building of local capacity to this end. .
- o) The e-Government strategy must also provide for the means to ensure **awareness among citizens**, and the development of mass **e-skills programmes** to ensure citizens have the capacity to engage government through e-channels.
- p) Policy is also required for additional **norms and standards regarding content approaches** so as to develop and promote openness. It is therefore recommended that a policy on open data be developed.

4.5.2 Role of government and state-owned entities

The Government Chief Information Officer situated within the DPSA is responsible for developing IT related policies, regulations, norms and standards. The Government Information Technology Officers Council (GITOC) includes national and provincial IT officers and is responsible for coordinating IT initiatives in government, including e-government, to facilitate service delivery.

The State Information Technology Agency (SITA) was established in 1998 to improve the effectiveness and efficiency of the public sector and facilitate service delivery through the provision of information technology, information systems and related services. In 2014 the Agency was moved from the DPSA to the DTPS.

R61. SITA AND GITOC

The Panel notes that

- There were a wide range of submissions during the policy review regarding state owned entities and their role in achieving the goal of an integrated and holistic e-Government regime.
- The role of SOCs in e-Government is a matter of implementation rather than policy and as such Government will have to determine the most effective approach to implement e-Government

However the Panel does endorse proposals from government on the need for an overarching review of key state entities. **It therefore recommends that:**

- a) The role and mandate of SITA be reviewed. This should assess whether it focuses on design-development; procuring the best suppliers; and support to all government entities, including to national, provincial and local government with a specific focus on those with limited capacity.
- b) The mandate of GITOC needs to be strengthened to ensure that it has the powers to take the lead in ICT planning in government and oversee implementation of e-government and the roll-out and maintenance of government infrastructure in line with ICT strategies. It should be accountable for, among other things, leading government transformation, facilitating collaboration across departments and spheres of government, promoting education and professional development of IT officers, promoting open standards and sharing best practice across government.

4.5.3 Government e-segments and e-services

The SIPs 15 programme and the National Broadband Policy have prioritised e-health (including support for the National Health Insurance plan) and e-education as the initial focal points for infrastructure development. This does not negate the need for the development of strategies by other departments and spheres of government but rather highlights the specific initial priorities for infrastructure development.

R62. EXPANDING PRIORITIES FOR E-SERVICES

The Panel considered whether current priorities in respect of e-services should be extended. The Panel further endorses the targets for e-services in the SA Connect policy, and recommends that:

- a) E-Government should be all encompassing. As such the implementation of e-services wherever possible and wherever there is a citizen need is necessary. Therefore other e-Government priorities in addition to education and health must be identified to focus on frontline citizen services for prioritising into the e-Government implementation framework.
- b) The improvement of efficiency of the justice system, prosecution and law enforcement must also receive particular attention within the context of e-services.
- c) A top-level partnership and coordination structure must be established by government to coordinate and oversee the implementation of e-services.

- d) The critical role of local government in delivery of services must be considered in determining priority areas and developing strategies for implementation.
- e) Benchmarks for improvement in priority services should be set and made public. Measures should include measurable outcome and demand indicators.

4.5.4 Promoting access to information and open government data

Digital technologies can play a key role in promoting access to information, both by improving records management and by providing open access to key public information (open data policies). Open government data policies would emphasise that information and data are made available for “everyone to access, reuse and redistribute without any restrictions”.³⁹ Open government data therefore is a means not only to facilitate the right of access to information, but to enable others (including the private sector, communities, academics, research institutions and civil society organisations) to conduct further analysis on such data. This is seen as promoting accountability, transparency and allowing for informed participation in the development of public policies.

R63. OPEN DATA POLICY

The Panel considered the need for a national open data policy. The Panel supports the principles of open data, within the context of ensuring access to information. However, the Panel also recognises that an open data policy must be implemented in a manner such that issues regarding state security and related confidentiality of information are considered.

The Panel therefore recommends that:

- a) An open data policy must be developed based on recognised Open Data Principles.

Further that the open data policy recognises the following:

- b) Data is an asset which must be managed properly in line with the Constitutional principles of openness, access to information and transparency.
- c) The importance of safeguarding information, and the need for an open data policy to guide how confidential information will be safeguarded.
- d) The implications of the POPI Act.
- e) The need for interoperability between government systems.
- f) The need to ensure that information is not only available, but that it can be processed and easily disseminated downstream i.e. open formats which are machine readable using common core and extensible metadata.
- g) Restrictions must be explicitly outlined.
- h) The importance of timely release of information which should be updated regularly to ensure relevance, while ensuring that historic information is also available for research purposes.

³⁹ United Nations Department of Economic and Social Affairs, “Guidelines on Open Government Data for Citizen Engagement”, 2013, <http://workspace.unpan.org/sites/Internet/Documents/Guidelines%20on%20OGDCE%20May17%202013.pdf>

- i) A clear process for implementation must be indicated such that it applies to all government departments.
- j) Consideration of the need for an Open Data commissioner to oversee implementation and ensure compliance with policy.
- k) Provisions for regular review of the policy, at least every five years.

4.5.5 E-Government standards for protecting information

The implementation of e-Government must take into account measures to ensure the integrity of digital public information to protect it from being manipulated or changed, to ensure confidentiality of, for example, personal records and to ensure there are mechanisms in place to ensure the security of sensitive information within the framework of the Public Access to Information Act.

R64. GOVERNMENT-WIDE IT GOVERNANCE FRAMEWORK

The Panel notes that:

- Currently, there are no common standards or mechanisms in place across government to address the protection of digital information.
- While some departments and different government entities have developed their own solutions to this, these are not necessarily interoperable across all government entities.
- A government-wide IT governance framework is required and should be put in place following an urgent review of all policies, norms and standards to protect digital information and data.
- This need has been emphasised by the Auditor General which conducts audits on management of IT vulnerabilities and risks across government and public entities.
- Public entities and state owned companies are also subject to the Companies Act and the King III Code which highlight the importance of IT governance and risk management and which is reinforced that the DPSA's "Protocol on Corporate Governance in the Public Sector".

The Panel therefore recommends that:

- a) All policies, norms and standards to protect digital information and data are reviewed and mechanisms put in place to ensure they are applied and implemented.
- b) The review process must involve the Computer Security Incident Response Teams (CSIRTs) and any other relevant stakeholders.
- c) Existing standards (including MISS and MIOS) be overhauled and brought in line with POPI Act.
- d) Clear guidelines on classification must be identified with an emphasis on the protection of commercially sensitive information.
- e) Mechanisms for monitoring of usage and access must be implemented.

4.5.6 Access to government e-services by persons with disabilities

While other chapters in the Recommendations Report deal specifically with access by persons with disabilities to services and content (including, for example, development and promotion of assistive technologies, sign language and audio-description on broadcasting services and training and skills

development), this sub-section focuses on the role that government should play in ensuring access and inclusion (*refer also to the proposed policy principles in Section 4.3 of this Chapter*).

R65. ACCESS TO E-SERVICES BY PERSONS WITH DISABILITIES

The Panel notes:

- It is important to recognise the unique needs of persons with different disabilities.
- The importance of consultation with persons with disabilities and representative organisations in the process of finalising policy in this regard.
- ICTs can be used to promote inclusion within the public service as well as ensure access to government services and information by people with disabilities.

The Panel therefore recommends that

- a) An e-Government policy to address access to government e-services by persons with disabilities be developed, and that the policy must be aligned to the afore-recommended single national e-Government policy.

Furthermore, it is recommended that the following policy principles be incorporated into the policy and in related implementation plans:

- b) Software and operating systems developed to improve administrative efficiency within government must incorporate mechanisms to ensure access and easy use by persons with disabilities working within the public sector.
- c) In its procurement of hardware and software, government should require service providers to ensure accessibility and compliance with universal standards. This will assist not only government as it is a major procurer of hardware and software and therefore such requirements will encourage suppliers to ensure access and compliance with universal standards more generally.
- d) Systems should be introduced across government to ensure integration of data regarding a person's disability to avoid the need to recapture the same data as the person moves from one service point to the next.
- e) In developing e-government services and solutions, government should both specifically consider how it can use ICTs to promote access by people with disabilities to government services and must ensure all e-government services provided by it are accessible.
- f) Government must also set guidelines and standards in line with recognised Web Content Accessibility Guidelines to ensure access to all public websites.

4.6 The digital economy and e-commerce

The ECT Act sets out the legal framework that governs e-commerce in South Africa. Government plays a key role in facilitating and enabling e-commerce and creating an environment for economic growth. An effective e-commerce framework can, for example, allow for greater access to local and international markets by individuals and the public or private sectors and promote SMME development by facilitating easier and cheaper access by providers to different markets and customers (including local and international buyers). E-commerce can also reduce expenditure in

the value chain from supplier to end-user, resulting in lower prices for the consumer and increase efficiency and ease of use of financial transactions with mobile banking. It incorporates:

- Business to-business transactions (B2B);
- Business to customer products and services (B2C);
- Business to government provision (B2G); and
- Consumer-to-consumer transactions (C2C)

This section deals specifically with recommendations relating to the provisions of the ECT Act and with policies that need to be adopted or amended to promote an enabling e-commerce environment. As issues relating to promoting trust and security relate to *both* the e-government and e-commerce sectors, these are dealt with in a separate section below.

4.6.1 Legislative duplications and contradictions

R66. ALIGNMENT OF ECT ACT

The Panel notes that there are numerous duplications and contradictions between the ECT Act and other laws and regulations. These include:

- Contradictions between the ECT Act, the regulations to the Companies Act and the Uniform Rules of Court on methods and timeframes for delivery of documents.
- Contradictory definitions and approaches to critical databases/information infrastructure between, for example, the ECT Act, the Regulation of Interception of Communications and Provision of Communication-related Information Act, the SITA Act and the Protection of Constitutional Democracy against Terrorist and related Activities Act of 2004.
- Different provisions on cooling off periods, SPAM and marketing in the Consumer Protection Act and the ECT Act.

The Panel recommends that:

- a) The ECT Act must be amended to address identified challenges and bring it in line with international best practice. Post the adoption of the imminent White Paper by Cabinet, it will be necessary to amend the ECT Act to bring it in line with new policies, including rules and conventions of international best practice such as that determined by the United Nations Commission on International Trade Law (UNCITRAL) and Convention.
- b) The South African Law Reform Commission must conduct a thorough review of the ECT Act to ensure alignment across all legislation.

4.6.2 Electronic Transaction Framework: Electronic signatures

The ECT Act makes the DTPS responsible for accreditation of electronic signature service providers. Regulations on the accreditation of signatures and the process for accreditation of authentication service providers were published in 2007 by the Minister. Two service providers have been accredited by the DTPS: LAWtrust and SAPO.

R67. ELECTRONIC SIGNATURES

The Panel notes that:

- Submissions have been received during the policy review process regarding ways to improve the general framework and the accreditation process for electronic signature service providers.
- The ECT Amendment Bill includes amendments to deal with some of the gaps in the current law, but that these revisions need to be further reviewed once the imminent White Paper is adopted.
- Concerns have been raised on the efficiency of the process and that some respondents to the policy review have pointed out that it has taken SAPO more than ten years to accredit service providers.

The Panel recommends that

- a) DTPS remains the Accreditation Authority, but provisions in the law and implementation strategies be reviewed to address challenges experienced to date and ensure a fast and efficient process for accreditation. Provisions relating to electronic signatures must also be brought in line with international best practice.
- b) That the DTPS is not precluded from outsourcing the accreditation function, if such a need is identified.
- c) The face-to-face verification for electronic signatures be reviewed, and aligned with the National Credit Act and UNCITRAL provisions.
- d) A technology and media neutral approach to electronic signatures is pursued.

4.6.3 Banking and mobile and online payment systems

The introduction of online banking and mobile and online payment systems by banks and other businesses (including mobile operators) has supported growth in e-commerce and assisted end-users across the country (including those that do not have bank accounts or payment cards) to access resources, products and services.

R68. STRENGTHENING ONLINE PAYMENT POLICY

The Panel notes that

- Policy regarding payments systems must address consumer protection issues and ensure consumers know their rights and obligations.
- Currently there is a lack of clarity regarding who is responsible for addressing any problems and what remedies are available.
- Consumer protection and other such laws in South Africa do address these issues to some extent, but submissions to the policy review process identified some lacuna.
- During the policy review there was general agreement among respondents that existing banking regulators are primarily responsible for banking and mobile and online payment systems. Some however stressed the need for greater cooperation between these regulators and ICASA.

However, the Panel is of the view that the increasing pervasiveness of online banking as a critical e-service does warrant some attention in the White Paper. As such the Panel recommends that:

- a) It is recognised that existing banking regulators are primarily responsible for this area (the Reserve Bank, PASA, NCR and BASA) but that the DTPS and ICASA should liaise with such entities to ensure their standards are reflected in policy and rules and that policy should require coordination and consultation where appropriate.
- b) Consideration to be given to regulation of the online banking environment to protect the bank and consumers but not to the extent of over regulation which will stifle innovation.
- c) The role of mobile payment systems be recognised and policy must ensure extending access to credit and payment facilities (such as M-Pesa).
- d) The policy must provide for the cooperation between banks and telecommunications companies to ensure that suspicious activity can be speedily halted. This should be facilitated via sector Computer Security Incident Response Teams to ensure confidentiality of information. Further that ICASA must be directed to work with SABRIC to develop a regime of consultation between telecommunications and banking sector bodies.

4.6.4 Taxation issues

It is recognised that e-commerce raises a number of issues related to taxation and that there will be a need to review all taxation policies in line with this. There is a need to examine, for example, double taxation treaties and international, regional and inter-country agreements on taxation.

From a consumer point of view, it is also important to ensure awareness of the implications of customs duties and taxes on the total costs of purchasing goods online from providers outside the country. Many small companies and individuals are not aware of the implications of duty fees and taxes (calculated at an added tax value and not the standard 14% VAT).

R69. TAXATION ISSUES

The Panel recognises that taxation is not an area that the Minister or Department can address as this is the prerogative of the Minister of Finance. However it notes that taxation issues are important to the promotion of a digital economy and digital commerce. The Panel therefore recommends that:

- a) The DTPS facilitates an ongoing consultation with the Ministry of Finance to examine how e-commerce may be promoted through, for example, exploring proposals on zero-rating tax on e-services and reviewing practices related to custom duties on certain goods.
- b) Discussions are held on the need for upfront and transparent information regarding custom duties, so that users can calculate the costs which will be imposed on collection of items and which will allow consumers to assess the competitiveness of online purchases.

4.6.5 Cross-border flows of information

One of the opportunities arising from digital transactions is the borderless and global nature of the Internet. This allows for South Africans to access goods and services outside of the country and to offer goods and services to a wider base.

R70. CROSS-BORDER FLOWS OF INFORMATION

The Panel notes that

- Local industry, and SMMEs in particular, can realise the opportunities of cross-border trade.
- There are risks associated with cross-border flows of information and therefore there is a need to harmonise rules (including taxation provisions) and mechanisms in place to ensure security and instil trust and confidence through developing common standards for verification, accreditation and approaches to consumer protection.

The Panel supports the view that South Africa champions the free flow of information and data within SADC and Africa to promote e-commerce within the region. The Panel recommends that:

- a) Cross-border flow of information must be reinforced in policy and implementation strategies include regular discussions on approach to this with the DTI, other relevant Ministries, and in the international fora in which South Africa participates.
- b) The DTPS coordinates the alignment of policy in this regard with the POPI Act (particularly Section 72 which deals with trans-border flows of personal information) with the relevant Ministry/Information regulator.
- c) As cross border flows also facilitate cybercrime that South Africa should promote international treaties to entrench crime prevention strategies between states.

4.6.6 SMME Development

The development of SMMEs is one of the priorities set in South Africa's economic development framework. The introduction of a Ministry and Department of Small Business Development in April 2014 is a key step in facilitating growth in this area.

It is important, however, to ensure that any new entrepreneurs entering the ICT and e-Commerce sectors have sufficient skills and information to protect themselves, users and potential clients from cyber threats (including protection of data, adequate anti-virus protection and tools to ensure secure networks). It is further important to realise the potential ICTs can have on supporting SMMEs in other sectors.

The Department and Ministry will work with the new Ministry and Department of Small Business Development to holistically address these issues and consider the specific skills needs of the entrepreneurial sector.

R71. GROWTH OF SMMEs

The Panel notes that:

- Digital technologies provide opportunities for SMMEs to enter the e-commerce market and can assist in reducing start-up costs of SMMEs in other sectors by decreasing the costs of products and services (e.g. cloud computing can reduce high infrastructure costs).
- The growth of the SMME sector can be catalysed through improved support of e-Commerce in respect of:
 - Supporting the development of SMMEs in the provision of e-services and products; and

- Promoting the use of e-services (including cloud computing) to promote growth, increase efficiencies and reduce costs in all SMMEs.

The Panel therefore recommends that the DTSP works closely with other Ministries and agencies in this area, including the Departments of Trade and Industry and Small Business Development to ensure a coordinated response, in respect of the following measures.

- a) Training and funding to reach markets and increase volume of transactions.
- b) Subsidies for initial infrastructure costs.
- c) Provision of subsidised or free off-the-shelf solutions for front-end websites, and back-end business processing systems including secure payment mechanisms.
- d) Promote the provision of wholesale services from incumbents.
- e) Government to implement preferential procurement policies partnerships with SMMEs.
- f) Promote use of e-services (including cloud computing) to promote growth and reduce costs of all SMMEs.
- g) Increasing the volume of transactions through training and funding in accessing markets.
- h) Ensuring SMME WISPs have access to spectrum, creating wholesale opportunities for SMMEs to acquire services from incumbents.
- i) Reducing administrative red-tape and costs of ICASA compliance for SMMEs.

4.7 Cloud computing

Cloud computing involves the storing, processing and use of data on remotely located computers accessed over the Internet. The ITU defines cloud computing as:

“A model for enabling service users to have ubiquitous, convenient and on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services), that can be rapidly provisioned and released with minimal management effort or service-provider interaction. Cloud computing enables cloud services.”⁴⁰

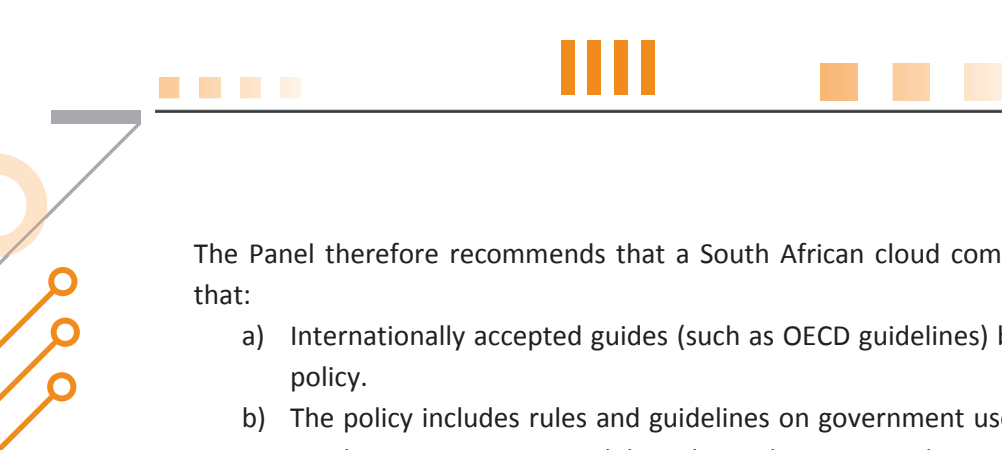
Cloud computing has the potential to lower barriers to entry for new players as it allows for government agencies, individuals, entrepreneurs, SMMEs and other companies to access IT resources on demand without significant capital expenditure.

R72. POLICY FOR CLOUD COMPUTING

The Panel is of the view that:

- South Africa needs to ensure its policies facilitate cloud computing as a platform for innovation and job creation, promoting the development of new services and products.
- This should be balanced with the need to protect privacy and the security of information, data and systems.
- Cloud computing can also support government IT development, e-government and development services and priorities. The Panel is of the view that the implications of cloud computing are important for economic growth across a number of spheres, including the business of government.

⁴⁰ ITU, “Cloud Computing Standards: Overview and ITU-T positioning”, http://www.itu.int/dms_pub/itu-t/oth/06/5B/T065B000001C0043PDFE.pdf



The Panel therefore recommends that a South African cloud computing policy be developed, and that:

- a) Internationally accepted guides (such as OECD guidelines) be considered in finalising such a policy.
 - b) The policy includes rules and guidelines on government use of cloud services, including the need to ensure interoperability when selecting providers. Other issues it is recommended be included include provisions on ownership of stored data, transmission of data and requirements on the protection of data. Government should consider if there is a need to develop specific rules relating to any of these provisions to ensure they are enforceable.
 - c) Policy should further put in place enforceable minimum standards to ensure security of databases and big data, so as to minimise cybercrime.
- d) In addition, South Africa should consider whether or not there are opportunities for the country to position itself as a destination for preferred hosting of cloud services. If so, policy provisions to promote this should be considered.

4.8 Internet Governance

“Internet governance is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet.”⁴¹ This section deals with the following issues in respect of Internet governance:

- International governance and the role of ICANN;
- The role of zaDNA in licensing and accreditation
- Domain names and mandate of zaDNA;
- Domain name security;
- Dispute resolution.

4.8.1 ICANN

The Internet Corporation for Assigned Names and Numbers (ICANN) has overall international responsibility for managing the Domain Naming System (DNS). It administers the root domain, delegating control over each Top Level Domain (TLD) to a ccTLD administrator, such as .ZA Domain Name Authority (zaDNA). ZaDNA is an active participant in the country code Name Supporting Organisation (ccNSO) of ICANN.

Government has participated in ICANN’s Governmental Advisory Council (GAC). The GAC’s main limitation is that it is an advisory structure, and the ICANN Board only has to consider rather than accept its advice. This status effectively means that other stakeholders have a stronger platform within ICANN to push their interests than governments. ICANN’s work however entails wide-ranging public policy issues that cannot be left entirely in the hands of the private sector.

⁴¹ Report of the Working Group on Internet Governance (WGIG), June 2005

The position that governments currently occupy within ICANN is made more powerless by the fact that the US government maintains sole influence over what ICANN does and how it does it. This is contrary to agreements reached in the 2005 Tunis meeting of WSIS.

R73. ICANN AND SOUTH AFRICAN INTERNET GOVERNANCE POLICY

The Panel supports the view that:

- Weaknesses in the current ICANN multi-stakeholder model must be addressed.
- South Africa needs a firm position on Internet governance and should play a leading role in addressing weaknesses.

The Panel therefore recommends that:

- a) South Africa develops a clear policy on Internet governance that will allow the country to defend its interests, its constitutional values and more actively influence global governance outcomes. The Net Mundial principles⁴² should be assessed as in a possible point of departure for the policy.
- b) South Africa continues to engage actively on international Internet governance forums to ensure the transformation of the ICANN multi-stakeholder model such that it enjoys meaningful participation; that multi-stakeholders are globally distributed; that robust accountability mechanisms for the ICANN Board are instituted; and that it ensures adequate representation by developing countries, and civic society.

4.8.2 .ZA Domain Name Authority (zaDNA)

The ECT Act established the .ZA Domain Name Authority (zaDNA) in 2002. It is responsible for the .za domain name space and is the statutory regulator of South Africa's domain name space, dotZA (.ZA). The ECT Act requires zaDNA to regulate and manage the namespace, including licensing registries and registrars. The ECT Act also makes provision for alternative dispute resolution mechanisms. To date, zaDNA has not implemented the licensing regime set out in legislation due to inadequacies in the Act. The ECT Amendment Bill published in 2012 addresses gaps in the existing legislation.

R74. LICENSING AND ACCREDITATION

The Panel notes that retaining registrar accreditation empowers ZADNA to implement different measures to promote diversity in the local registrar community and to ensure the participation of previously disadvantaged individuals through enterprise development programmes.

The Panel having considered the issue of licensing and accreditation and recommends that

- In respect of licensing and/or accreditation of registries and registrars, that zaDNA be empowered to accredit registries and registrars instead of licensing these

⁴² See <https://www.netmundial.org/principles>

4.8.3 Domain names and mandate of zaDNA

South Africa's authority in domain names only applies to the names registered in .ZA, and zaDNA is the entity entrusted with this authority. Domain names registered in other namespaces do not fall under its jurisdiction and generic top level domains (gTLDs) such as .com, .net and .org fall under the jurisdiction of the US government simply because gTLDs account to ICANN, which is a California-registered entity.

There are currently about one million names registered in South Africa to date (.ZA domain names). This is limited given that the population of South Africa is +50 million people, and can, at least in part, be linked to the broader socio-economic realities of South Africa where a substantial percentage of the population do not have Internet access. Domain names have further not formed part of broader ICT service delivery, due largely to lack of domain name education and awareness.

R75. ZADNA MANDATE

The Panel recognises that zaDNA's current mandate focuses on increasing public awareness on the economic and commercial benefits of domain name registration. It further notes that zaDNA has made submissions to the Panel and government proposing that its mandate be extended to include:

- a) Broader Internet user awareness (including domain names, hosting, spam, privacy, Internet rights, security and Internet governance)
- b) Implementation of strategies to increase South Africa's online presence.
- c) Provision of Internet and DNS capacity building in collaboration with universities, FETs and other parties with a view of building a local pool of Internet practitioners that can, amongst other things, contribute to the development of Internet standards in such global bodies such as the Internet Engineering Task Force (www.ietf.org).
- d) Internet research and information dissemination.
- e) Internet policy and governance.
- f) Internet advisory service to the government and the public.

The Panel further recommends that

- g) Government should consider zaDNA's submissions in line with country needs and international best practice and make a decision on this in its policy position (the White Paper).
- h) The assessment of the expanded zaDNA's mandate must entail an assessment of the funding implications.
- i) The domain name function of an extended zaDNA should remain funded from the domain name revenue.

4.8.4 Domain name security

Issues of domain name security relate largely to security and reliability of both the domain name registry infrastructure and the integrity of domain name data. There are a range of different security measures that domain name regulators have used in the past to secure their namespaces, though ICANN – as the “regulator” of all generic, non-country specific top level domains – has required that registry operators implement DNS Security (DNSSec). DNSSec is gradually gaining momentum in line

with this ICANN requirement and an increasing number of country-specific domain name regulators are now implementing DNSSec.

R76. DNSSEC DEPLOYMENT

- a) The Panel notes that ZADNA has already identified DNSSec as a value-adding security measure for the .ZA namespace, and that it has committed to a gradual DNSSec deployment. The Panel endorses this approach.

4.8.5 Dispute resolution

The ECT Act states that the Minister together with the Minister of Trade and Industry must promulgate regulations on the resolution of disputes in the .za domain name space (section 69). Regulations were promulgated in 2007 (the Domain Name Dispute Resolution Regulations).⁴³ In the subsequent seven years of domain name dispute resolution practice some trends and uncertainties have surfaced that necessitate a review of the Regulations.

R77. STRENGTHENING DISPUTE RESOLUTION

- a) The Panel recommends that zaDNA's powers regarding **dispute resolution** be strengthened and that related processes be made more efficient in that zaDNA is given the right to act without restriction in most regards, subject to an annual review by the Minister.

Furthermore, the Panel recommends that the following issues be considered to facilitate strengthening of dispute resolution:

- b) **The introduction of a mediation service:** Experience in other domain jurisdictions has shown that the introduction of mediation prior to adjudication helps resolve many disputes before they can reach adjudication. Dependent on resources, this could be for free by zaDNA.
- c) **Undertaking of ADR administrative process:** zaDNA must assume the administration of the ADR process and system and thus SAIPL's role be limited only to the task of allocating an adjudicator. This will ensure administrative synergy between mediation and adjudication.
- d) **Reduction of ADR fees:** The possibility of reducing the ADR fee should be explored to make it easy for the public to lodge ADR disputes, especially if mediation is not introduced.
- e) **Enhanced list of factors of abusive registration:** Extend the list of factors which may be evidence that a domain name is an abusive registration. Regulations could further clarify the term abusive registration to avoid too rigid application.

4.9 Ensuring trust and confidence in the Internet

Public and business trust and confidence in the Internet is essential to promote both e-government and e-Commerce services. There are a number of issues which need to be addressed linked to this:

⁴³ <http://www.domaindisputes.co.za/downloads/AFTLDPresentation.pdf>

- Mechanisms to address cybercrime and protect users from criminal activity on the Internet or via their mobile phones (e.g. SIM swaps);
- Enhanced tools to deal with cybersecurity;
- Ensuring that data is protected;
- Provisions to ensure privacy of users;
- Consumer protection;
- The protection of children; and
- Intellectual property protection.

Promoting awareness of mechanisms and tools to protect end-users (digital literacy, e-awareness etc.) is part of this, but is dealt with in its own section as there are many dimensions to this.

4.9.1 Cybersecurity

The National Cybersecurity Policy Framework adopted by Cabinet in 2012 defines cybersecurity as follows:

“Cybersecurity is the collection of tools, policies, security concepts, security safeguards, guidelines, risk management approaches, actions, training, best practices, assurance and technologies that can be used to protect the cyber environment and organization and user assets.”

Government recognises that the issue of cybersecurity is cross-cutting and cannot be addressed by one department alone. In line with this, the Cabinet Justice, Crime Prevention and Security Cluster (JCPS Cluster), led by the Minister of Justice, is currently reviewing all related legislation to ensure harmonisation and alignment. The DTPS is part of the Cyber Response Committee (CRC) established under the Cluster and is thus integrally involved in ensuring alignment with the ECT Act. The State Security Agency is tasked with the overall responsibility of cybersecurity and is working together with other relevant departments on this, including DTPS.

R78. STRENGTHENING THE CYBERSECURITY REVIEW PROCESS

The Panel notes that:

- Government has acknowledged the need to benchmark cybersecurity related frameworks, policies and laws in terms of international best practice, taking into consideration the need to promote security while protecting rights encapsulated in the Bill of Rights.
- A cross-ministerial Cluster is taking responsibility for the latter.

The Panel supports the current process. It strongly recommends that submissions made by stakeholders on this issue during the different phases of the policy review should be forwarded to the Cluster for consideration. It further recommends that the following issues are taken into consideration in the current legislation and policy review:

- a) The process should include a multi-sectoral forum including the private sector.
- b) Strategies to ensure awareness of cybersecurity by non-technical audiences must be improved and awareness raising campaigns must be put in place so that the focus is not just on punitive measures.
- c) The need for programmes to train justice, police, and prosecuting officials on cybersecurity issues so that enforcement is improved.

- d) As much of the cybersecurity framework as possible should be made public to broaden awareness and participation in addressing cybersecurity.
- e) Penalties must be increased and provisions related to sanctions removed from the ECTA to appropriate criminal prosecution laws/cybercrime legislation.
- f) Other relevant provisions should also be moved to a cybercrime bill or other appropriate laws.

4.9.2 Cybersecurity hub

The National Cybersecurity Policy Framework mandates the DTPS to establish a National Cybersecurity Hub. This is in the process of being implemented. Provisions relating to this have been incorporated into the ECT Amendment Bill. The Policy Framework also proposes the establishment of a Government CSIRT and promotes the establishment of Sector CSIRTs to manage the operational aspects of cybersecurity.

R79. STRENGTHENING THE CYBERSECURITY HUB

The Panel notes that the DTPS has established the Cybersecurity Hub in line with the National Framework.

The following are proposed to strengthen the role, and functioning of the Cybersecurity Hub:

- a) The Panel supports that the Hub's mandate is upheld, and underscores the need for collaborative programmes to ensure the vision of the Hub is realised and strengthened.
- b) Provisions should emphasise the need for strong public-private partnerships and it is recommended that government review whether or not an enforceable code of conduct and legal rules should be developed to incentivise implementation across government and society of good cybersecurity practices and address liability for cyber breaches such as identity theft and cyber financial theft.
- c) Strategies must be developed to ensure the core mandates of the Cybersecurity Hub in terms of promoting awareness of risks and vulnerabilities are upheld.
- d) Reporting requirements must be clear and simple and government must ensure that there is no duplication with other entities.

In addition, in respect of how policy and legislation addresses the issue of liability for cyber breaches, the Panel recommends that:

- e) The cybersecurity framework must be made public to facilitate public response.
- f) The national CSIRT must be established with cross-industry role players.
- g) The Cybercrime Bill must should consider international best practice on issues of liability, take into account other relevant South African law, including provisions in the ECT Act, POPI Act and the King III Code.
- h) Cybersecurity laws must encourage ISPs to work with the Hub and law enforcement agencies to combat crime.
- i) Collaboration and incentives must be promoted to reward good practice, as with the EU approach.

4.9.3 Critical information infrastructure

The protection of critical information databases has been prioritised in the National Cybersecurity Framework. The Cyber Response Committee (CRC) established under the JCPS Cluster has developed a draft National Critical Information Infrastructure Policy outlining an approach to the identification, protection and security of the national information infrastructure.

R80. CRITICAL INFORMATION INFRASTRUCTURE

The Panel considered two issues, namely ministerial responsibility and the ambit of what constitutes critical information. The Panel recommends as follows:

- a) **In terms of responsibility, the Panel recommends that** the JCPS cluster has the appropriate authority to decide which Minister would remain responsible for setting rules and overseeing the management of critical information infrastructure.
- b) **In terms of the ambit of critical infrastructure definitions** the Panel notes that it is difficult to isolate state-owned and private information infrastructure due to the connectivity of networks. It further notes that the issue of protecting infrastructure is not about government versus private sector, but about ensuring the safety and security of South Africa. The Panel therefore recommends that there needs to be a holistic approach to protecting critical information infrastructure.
- c) **The Panel further notes that the ECT Act does not** set out any clear definitions for critical information infrastructure but gives the Minister complete discretion to declare any infrastructure as such. The term therefore needs to be more clearly defined and criteria included that would guide such a determination by the Minister, ensure certainty and where necessary circumscribe powers.

4.9.4 Cybercrime

Cybercrime is an increasing concern in South Africa and around the world. It affects public entities, individuals, community and non-governmental organisations as well as private enterprises. The ECT Act currently deals to some extent with cybercrime related issues and, for example, includes penalties for such crimes. A Cybercrime Policy is currently being developed by the SAPS together with the JCPS Cluster.

R81. CYBERCRIME POLICY

The Panel notes that the following concerns regarding cybercrime were raised during the policy review:

- Current provisions in the ECT Act are inadequate.
- Issues relating to cybercrime be dealt with by the Justice and related Ministries (including the police) to ensure proper deterrents, and provide for investigation, prosecution and enforcement of provisions.
- Law enforcement is ill-equipped, prosecutors do not understand the law and presiding officers in legal proceedings do not have sufficient background or experience in ICT issues to enforce the law.

The Panel recommends that:

- a) The above concerns must be addressed in a Cybercrime Policy and submissions made through the policy review process should be formally forwarded to the relevant Cluster for their consideration.
- b) , The ECT Act must be amended to ensure alignment, and eliminate duplications once the policy and relevant cybercrime legislation is finalised.

4.9.5 Cyber Inspectors

The ECT Act makes provision for the introduction of a cyber inspectorate and cyber inspectors to assist police in handling cybercrimes given the increase in cyber offences. The cyber inspectorate is a unit in the DTPS' ICT Security Directorate in the ICT Infrastructure Branch. However, the inspectorate is still not fully established. Two years ago, the Department embarked on training of the first cyber inspectors. The project was not successful due to financial constraints and other administrative challenges within the Department. There are thus no cyber inspectors currently in place and no indication that the cyber inspectorate in the DTPS will be established soon.

R82. CYBER INSPECTORS

The Panel notes that opinions from stakeholders on the need for the cyber inspectorate differed widely. While many submissions said that this should be located within law enforcement institutions, others noted that there is limited capacity and that such an inspectorate could assist police by investigating instances and playing a proactive role in addressing cybercrime.

The Panel recommends that:

- a) The above submissions, as well as current policy positions of the DTPS with regards to the roles and responsibilities of cyber inspectors must be shared with the JCPS Cluster and considered in finalising related policies.
- b) Furthermore that the ECT Act, in respect of a cyber inspectorate must be amended in line with a new Cybercrime Policy once it is finalised.

4.9.6 Data protection and privacy

Data protection policies generally have to balance two goals: The protection of the right to privacy and promoting the free flow of data to support innovation and economic development. The information society is by its nature global and data is the currency of the digital economy.

The Protection of Personal Information Act (the POPI Act) promulgated in 2013 deals with the issue of privacy in the processing of information and provides for the establishment of an Information Protection Regulator to handle complaints. The POPI Act repealed Chapter 8 of the ECT Act which dealt with the protection of personal information. The ECT Act though does still include provisions on unsolicited commercial communications which need to be reviewed in light of the new legislation.

R83. DATA PROTECTION AND PRIVACY

The Panel notes that:

In the emerging era of a Digital Society, innovations such as cloud computing, big data and the Internet of things promote and rely on cross-border data flows.

If South Africa is to become more competitive, to encourage technology, business models and service innovation in a Digital Society, it must not be at the expense of rights such as privacy or other goals including the promotion of SMMEs.

The Panel therefore recommends the following to strengthen data protection and privacy in the online environment:

a) Alignment of ECT Act and POPI Act

- i. The Panel recommends that the ECT Act provisions on privacy and data protection must be amended to bring these in line with the POPI Act. It is also necessary to ensure alignment and coordination between ICASA and the Information Protection Regulator established under the POPI Act.
- ii. The Panel notes that in addition to the broad review of the ECT Act in relation to the POPI Act, there is a need to consider whether or not current legislation (including these two laws) sufficiently addresses the following privacy and data protection issues outlined in (b) and (c) below.

- b) **The right to be forgotten:** The Panel recommends that the European Commission's Data Protection Regulation which includes specific provision on the right to be forgotten be considered in revising South African law. Government should decide which law will be best suited to incorporate provisions for the right to be forgotten.

- c) **Data trails:** Given that all Internet users leave digital trails through their Internet activities allowing for local and international entities to track and collect data about their friendship and business networks, hobbies, interests and shopping patterns, privacy concerns relating to the compiling of information on a user's long-term browsing history (tracking) requires new regulation. The Panel therefore recommends that the DTSPS develops a framework and associated policy amendment to improve data protection regulation to protect Internet users from clandestine tracking and unauthorised personal data storage. Further that rules should limit who can access such information, define what a data trail is and stipulate how and when metadata can be accessed and used.

4.9.7 Online gambling

Increased access to the Internet (whether via computers or mobile devices) inevitably increases the reach of online casinos. Online gambling includes virtual online gaming, Internet sports betting, online bingo, online lotteries, online sweepstakes and tournaments. While the National Gambling Act, no 7 of 1996 regulates gambling activities, these online sites challenge the effectiveness of such laws, given that online operators are not necessarily located within South Africa. The potential for fraud and cybercrime also increases as dishonest operators of sites can easily move, alter or even remove a site within minutes after taking money from gamblers. It is also easy for unscrupulous operators to manipulate software and games.

Amendments to the National Gambling Act adopted in 2008 provide for licensing of online casinos, however regulations required in relation to this have not yet been promulgated by the Gambling Board or the Department of Trade and Industry.

R84. REGULATIONS FOR ONLINE GAMBLING

The Panel notes that

- The White Paper, will not explicitly deal with challenges associated with online gambling regulation or with the implantation of legislation.
- The failure to implement provisions and address the associated problems can result in loss of confidence among end-users who have been exploited or who are aware of such exploitation.
- A loss of trust inevitably negatively affects all online or mobile service providers and therefore impacts on e-commerce expansion.

The Panel therefore recommends that the DTPS must forward submissions and suggestions related to on-line gambling to the relevant Ministry and the Gambling board for their consideration.

4.9.8 Internet intermediary liability

The ECT Act currently provides for the issuing of take-down processes outside of the courts. This section considers whether or not it would be necessary to retain such provisions in an ICT policy and in legislation, and if there is a need to amend current provisions.

R85. INTERNET INTERMEDIARY LIABILITY

The Panel notes the following views expressed by stakeholders that:

- The limitation on liability should be general and not reliant on membership of an accredited body.
- The memorandum on the ECT Amendment Bill and provisions in current law be reviewed to ensure fairness and constitutionality.
- Limited liability be extended to other service providers including those that operate platforms.
- Additional mechanisms are required to ensure the integrity of complainers in line with international best practice. This may include requiring that take down notices should be pursuant to a court order, affidavits from complainers to ensure these are in good faith and that the complainer has authority and requirements that information be specifically identified so that it can be easily found.
- That a Cybercrime Bill developed by the Department of Justice, will deal with this issue to some extent.

The Panel recommends that:

- a) Current provisions should remain in place but be extended to ensure they cover all technologies and platforms and that the process of accrediting self-regulatory entities is strengthened.

4.9.9 Intellectual Property Protection and copyright

The Minister of Trade and Industry is responsible for the protection of intellectual property and copyright. The Ministry is currently reviewing legislation to ensure it accommodates new technologies and is in line with international best practice. Of particular concern in relation to the area of e-commerce and e-services is the issue of online piracy and trademark counterfeiting – including domain name counterfeiting.

It is noted that the take-down procedures outlined in the ECT Act dealt with above do also apply to alleged breaches of copyright and intellectual property. Proposals made on the three-strike rule by the Copyright Review Commission also relate directly to this and should be considered when responding to the questions below.

R86. INTELLECTUAL PROPERTY PROTECTION AND COPYRIGHT

The Panel considered what measures and mechanisms could be put in place to strengthen online intellectual property protection. The Panel notes the following submissions in this regard:

- Clarity is sought on which is the primary law relating to Intellectual Property Protection and copyright from an e-services perspective.
- The need to focus on those that benefit financially rather than intermediaries or users
- The removal of duplicating clauses in different laws
- The adoption of creative commons licensing processes

The Panel recommends that the DTPS refers all of the above proposals to the Minister of Trade and Industry, given that DTI as the custodian of intellectual property law is currently implementing a review.

4.9.10 Consumer Protection

The increasing use of digital devices and technologies raises new issues in relation to consumer protection. ICASA is required to some extent to ensure protection of consumers though many of its responsibilities now fall under the National Consumer Commission. The Commission has however not fully implemented provisions relating to this.

R87. CONSUMER PROTECTION

The Panel notes that:

- The recommendations in the Institutional Frameworks Chapter of this report deal in more depth with the relationship between the National Consumer Commission and ICASA, and this in turn addresses many of the concerns around this matter.
- The current framework for consumer protection is disjointed resulting in consumer confusion as they have to refer to three different laws and work out which of three regulators they should complain to resulting in unnecessary jurisdictional battles.

The Panel however records its endorsement of submissions in this regard during the policy review process, and recommends that:



- a) Government should focus on measures to address the resourcing of regulatory bodies such as the National Consumer Commission to effectively address matters affecting consumers in the e-commerce environment.
- b) Government ensure that simple and citizen centric consumer protection measures are put in place to ensure consumer awareness about their rights and information on how to complain about alleged breaches.



5 Audio and Audio-visual Content Services⁴⁴

5.1 Introduction

Convergence, the move to digital terrestrial television, the Internet and the introduction of more devices such as connected TVs will increasingly change how, where and when people in South Africa will access and interact with audio and audio-visual content. This offers great opportunities for audiences, service providers and content producers but also will require a change in the way “broadcasting” is regulated and the policy framework for the sector so that public interest goals continue to be met.

The Panel considered a range of questions during the review process, and these, in tandem with the recommendations in this Chapter, will need to be considered in crafting a new White Paper:

- How in a multichannel, multiscreen environment does policy and law ensure that all South Africans, regardless of geography, income, age, gender, home language, ability ... have access to a wide range of creative and compelling content in all languages, from diverse sources (including community, provincial, national and international content)?
- How can Government promote constitutional rights such as equality and freedom of expression and ensure a new information divide is not inadvertently created – with some people able to access a range of content and others only able to view and listen to content provided by a limited number of traditional broadcasters?
- How does policy continue to protect children from harmful and age-inappropriate content and ensure audiences can make informed choices about what to view and listen to?

An important point must be borne in mind at the outset in respect of terminology. The terms “audio” and “audio-visual” content recognise the changes associated with increased access to high-speed broadband and the introduction of digital terrestrial television and new digital radio to both audiences and content providers. Policy will therefore need to adapt to facilitate and promote the availability of public interest programming, including South African music and content in all languages. At the same time, a new White Paper and related laws will need to focus on ensuring that traditional broadcasting services are viable so that they can fulfil South African content and news and information obligations even as they compete for audiences, advertising and content with both additional traditional channels and radio services and with newer media distributed from inside and outside the country.

Recommendations regarding several issues which were highlighted during the policy review process which are *not* covered in this Chapter are:

- Regulatory principles and net neutrality: Given convergence, these issues are relevant not only to audio and audio-visual content but affect and apply to all sectors and areas covered in this Discussion Paper. They are therefore dealt with in Chapter 2: Regulatory Principles and Approaches.

⁴⁴ NOTE: The recommendations in this Chapter are presented against the backdrop of a more detailed discussion of policy issues, presented in the Discussion paper, Chapter 7, pp 148-217.

- Spectrum related policies and principles are covered in Chapter 3: Infrastructure and Services as are issues related to signal distribution and transmission.
- Skills training and industry growth matters are presented in Chapter 6: Industry Growth.

This chapter presents recommendations on *all* audio and audio-visual content carried over electronic communications networks and services. While it focuses on policy recommendations relating to regulation, it does not only deal with regulated and/or licensed broadcasters or content providers. Government policy is aimed at stimulating audio and audio-visual content production and investment across a range of genres, formats and languages. It also recognises that compelling content is critical to drive take-up of technologies such as broadband and the importance of ensuring that audiences not only access programming but also produce, share and engage with content.

The Panel has also noted that some licensed broadcasters have not responded to *all* the issues raised in this chapter and have instead argued that the broadcasting services do not fall under the ambit of the DTPS, and that they would therefore engage the DoC in its broadcasting policy review.

5.2 Definitions

One of the first issues that must be addressed in reviewing current broadcasting related policies is the definition of “broadcasting/content services” and which services would need to be licensed. Given convergence, many countries have expanded such definitions to include non-linear television and/or broadcasting-like services (such as VOD and over-the-top television) and a graduated approach to regulation.

It should be noted that the definition of content services/broadcasting could impact on other entities and laws. For example, the Film and Publications Act excludes broadcasting from the Film and Publications Board ambit.

R88. AMENDMENT OF DEFINITIONS

The Panel recommends that:

- a) The current definitions should be amended to cover both linear (traditional broadcasting) and non-linear (on-demand) broadcast-like content, regardless of the distribution platform used.
- b) However that the revised definitions exclude data or text services and those where the provision of audio-visual or audio material is incidental to the provision of that service.
- c) The ambit of the revised definitions should focus on services under the editorial control of an operator providing programming content to the public.

5.2.1 Approach to linear and non-linear providers

R89. LINEAR AND NON-LINEAR PROVIDERS

With regards to the approach to linear and non-linear providers it is recommended that:

- a) Both the nature of the service (linear versus non-linear) and the influence of services should determine the extent of regulation of audio and audio-visual content.
- b) Furthermore, that while non-linear services will generally have lighter touch regulation than traditional broadcasters, those broadcasters with more influence will have increased obligations e.g. to air increased amounts of South African content.
- c) Thresholds of influence must be set by the regulator using set criteria e.g. South African audiences and advertising revenue.

5.2.2 Internet content providers external to South Africa

The Internet is also “borderless” and, for example, Internet Protocol Television Services (IPTV), web TV and on-demand audio and audio-visual services can be streamed into South Africa from anywhere in the world. Some of these services might not specifically target South African audiences but could end up competing for audiences and advertising with licensed South African providers. Others might opt to operate outside of South Africa to avoid regulation, including content regulation, but specifically target and market services to South African providers.

Enforcement of provisions that no provider can “broadcast” without a licence could be difficult when content is streamed from elsewhere in the world. If these services are streamed from countries that South Africa has relationships with (e.g. Southern African Development Community countries), agreements could be reached to ensure that services have to be licensed or authorised in their “source” country to address this problem. However, services can be streamed from anywhere in the world, and therefore this will not always be a remedy. If special devices are needed to access this content, it will be possible to restrict the sale of these, but this also will not always apply.

R90. EXTERNAL INTERNET CONTENT PROVIDERS

The Panel is of the view that

- Streaming of content by providers external to the Republic is a fair competition issue.
- Thus such providers need to be regulated in the same way as local providers if they specifically target South African audiences and/or revenue and reach the minimum thresholds of influence set by the regulator.

The Panel therefore recommends that:

- a) Policy measures must be developed such that external content providers, using the Internet as a medium, are subject to South African regulations if they have significant influence in the South African market.
- b) The regulation of such providers be guided by UN protocol.
- c) Mechanisms are developed to ensure taxation is applied and further to uphold locally regulated matters such as cybercrime, protection of minors from harmful content.

5.3 Focus of regulation

An important consideration in respect of audio-visual and content policy is the focus of regulation.

R91. AUDIO-VISUAL AND CONTENT REGULATION FOCUS

The Panel recommends that:

- a) The approach in current policy and law that all broadcasters, to varying degrees, contribute towards meeting public interest goals is still a core principle.
- b) All broadcasters (both linear and non-linear) must thus continue to contribute towards the broad objectives set for the content sector.

5.4 Licensing

5.4.1 Licence Categories

There are currently two categories of broadcast licence⁴⁵:

- Class – for community broadcasters⁴⁶; and
- Individual - for commercial and public broadcasting service licensees

Given that it is recommended that the definition of broadcasting be extended to include on-demand service providers, and in recognition of the changing environment it is necessary to consider if these two categories are still the best approach to licensing or whether new categories should be introduced, taking into account the new content value-chain which introduces not only non-linear services, but also new operations, processes and players in relation to television (radio is not affected to the same extent as yet) i.e.:

- Channel packaging of individual channels;
- Channel aggregation into bouquets;
- Aligned services such as electronic programme guide (EPG) development and backdoor services such as subscriber management, complaints etc.;
- Mux operation;
- Multiplexing;
- Platform operation (an end-to-end service, managing a platform and the content); and
- Platform service operator – same as above, but on the basis of lease of platform.

Future policy and legislation will need to take account of the changes introduced by the migration to DTT as well as any new definition of “content services/broadcasting”. The recommendations in the sub-sections below focus on general issues, licence categories and the process to be adopted in approving, authorising and/or registering services.

⁴⁵ Note that all broadcasters also require a frequency spectrum licence.

⁴⁶ Note that challenges identified in the review process relating to the class licensing process for community broadcasters are dealt with in the section on community broadcasters

5.4.1.1 Spectrum licences

Policy applying to television will need to recognise that a digital licensee will be allocated capacity on a multiplex (MUX) rather than a specific radio frequency. The multiplex will operate across a number of frequencies. The legislative requirement that all broadcasters should get a radio frequency spectrum licence might need to be reviewed, therefore. It should also be noted that on-demand and broadcasting-like services distributed over the Internet will also not use frequency spectrum.

R92. SPECTRUM LICENCES FOR MUX OPERATORS/ECNS LICENSEES

The Panel notes that

- This issue has been a subject of lengthy debate – with broadcasters and signal distributors adopting different positions.
- Broadcasters have expressed concern that if they do not have licences that specify the frequencies used, they could be more easily moved off these frequencies which would have consequences for viewers.
- Broadcasters have recommended that the current regime should continue, where they still have spectrum licensed to them.

The Panel therefore recommends that:

- a) In the emerging converged environment, broadcasters should not be required to hold individual spectrum licences but the policy and legislation must address concerns raised regarding the need to ensure security of access to spectrum by licensees and the needs of audiences.
- b) The relationship with spectrum frequencies is through MUX operators/ECNS licences rather than individual assignment. Therefore spectrum licences must thus be reserved for MUX operators/ECNS licensees who will have obligations to carry licensed services and, for example, ensure that their coverage obligations as set out in licence conditions are met.
- c) The development of policy in this regard shall ensure that the current rights of broadcasters associated with spectrum licences are not negatively affected by the removal of such spectrum licences.

MINORITY RECOMMENDATION: The status quo should remain and broadcasters still be required to hold spectrum licences.

5.4.1.2 Licence categories

R93. INQUIRY INTO NEW CATEGORIES OF LICENCES

The Panel notes that:

- The evolving environment requires a rethink of the current licensing regime.
- There isn't sufficient evidence to make a determination of what new categories of licensing are required.

The Panel therefore recommends that:

- a) The current class and individual licensing approach be retained in the short-term, but adapted to accommodate new categories. This may entail, for example, the development of

a specific content services class licence category which recognises the distinctive nature of broadcasting/content services.

- b) The regulator is tasked to undertake an inquiry as soon as possible to assess the need for new categories of licences considering the new value chain and assessing whether or not there is a need for licences for the different components of this chain. In this regard government shall provide the terms of the inquiry to ICASA, and the findings therefore are presented to government for enactment in law.
- c) Further that the ICASA inquiry must include an assessment of whether or not a separate multiplex operator licence will be necessary to ensure, for example, fair treatment of all content providers on a MUX.

5.4.1.3 Licensing Process and requirements

R94. INQUIRY INTO DIFFERENT LICENCE CATEGORIES

The Panel notes that:

- For each category of service, including those which may still be determined, policy should define the process to apply for and renew the licence.
- Policy would also need to stipulate the scope of regulation for each category i.e. what sorts of obligations should apply to on-demand services.

The Panel recommends that:

- a) **A review of the different licence categories should include an assessment and recommendations to government on the evolving audio and audio-visual environment, with respect to the following issues:**
 - i. Which categories of licence would have to wait for an invitation to apply and what obligations would apply to these?
 - ii. What considerations would guide the granting of individual licences?
 - iii. Which services/categories of licence could apply at any time and/or be registered and the processes involved?
 - iv. Whether there are instances when co-regulation could assist and, if so, what criteria should be considered in adopting this approach?
- b) Such review further assess whether it is necessary for the regulator to perform a public value test and/or regulatory impact assessment before inviting applications for significant licences (e.g. new major commercial radio or television services), including an assessment of the market impact of a new service and an analysis of what, if any, specific obligations would be set to ensure specific policy objectives such as diversity.

5.4.1.4 Multi-channel broadcasting: Authorisation versus licensing of channels

There is a need for future policy to specifically consider the licensing processes for multi-channel services in light of DTT. Channel authorisation provisions were introduced in the White Paper on Broadcasting in 1998 with the adoption of a framework for licensing of satellite television. As FTA television broadcasting was then all analogue, the policy did not specifically consider whether the authorisation process was appropriate for FTA licensing. The 1999 Broadcasting Act promulgated in line with the White Paper stated that a broadcasting licence consisting of more than one channel

could not introduce new channels unless these were authorised in terms of the authorisation process prescribed by the Authority.⁴⁷ ICASA in its subscription broadcasting position paper and regulations set out a very simple authorisation process that gives the regulator limited powers to refuse such application.

ICASA has in its digital terrestrial television Position Paper and Regulations outlined the process for authorisation of channels by commercial and public broadcasting licensees. The authorisation process set out for FTA broadcasters is largely administrative, but the SABC would have to undergo a public value test for each channel.

R95. FRAMEWORK TO ACCOMMODATE MULTI-CHANNEL TERRESTRIAL BROADCASTERS

The Panel notes that there are several key issues which need to be considered in reviewing the current framework relating to the approval by ICASA of channels in a multi-channel environment:

- If licence conditions would be network-wide or if there would be a need to include any channel specific conditions.
- Whether or not the authorisation process as outlined in regulation allows ICASA to fulfil its mandate of ensuring that individual broadcasting licensees offer a diverse range of programming, including South African content.
- If, given the different approaches to regulation of FTA and subscription services, the channel authorisation process should be the same for these two categories of broadcaster. Fair competition principles would be important to consider in relation to this.
- If there should be a different approach for satellite versus terrestrial broadcasters (whether FTA or subscription).

The Panel also recognises that the implication of the current converged environment and migration to digital is that multi-channel broadcasting will be the norm. **The Panel therefore recommends that:**

- a) ICASA should be directed to develop a framework to amend the current broadcasting licensing approach to accommodate multi-channel terrestrial broadcasters and ensure public interest needs are met.
- b) The framework must ensure that ICASA can meet its public interest responsibilities of facilitating diversity of, for example, content, language, news and analysis.

5.5 Three tier system

The current regulatory framework for broadcasting licensees (linear content providers) is focused on facilitating diversity and plurality of content and service. The three tier broadcasting framework of public, commercial and community services (whether FTA or subscription) is one of the key ways of achieving this. All tiers have to fulfil some public interest obligations with differing responsibilities allocated to each tier and service.

⁴⁷ Section 4(4) and 4(3) of the Broadcasting Act. These sections were repealed with the introduction of the EC Act.

In the current evolving content environment, questions have been raised about whether, with convergence, the three tier system is still relevant or the best means to promote public interest objectives. Concerns have been raised, for example, as to whether the three tier system could result in unfair competition and the entrenching of the SABC if it was seen as an end and not a means of achieving key principles.

R96. STRENGTHENING THE THREE TIER SYSTEM

The Panel notes that

- The public content environment has become commercialised to the extent that public interest programming is often neglected.
- The share of commercial programming has increased and a multi-channel environment could exaggerate this trend further.
- That the importance of the three tier system is to ensure South Africans have access to distinctly different content (commercial, public and local/community) across all platforms.
- The majority of channels in the future will be aired nationally (national footprint) due to the use of digital platforms.
- That a digital environment has the potential to facilitate greater access by audiences to a range of content.

The Panel therefore recommends that:

- The current three tier system is to be retained but with a requirement that as the number of services increases, there must be corresponding increase in the public content across all platforms, after having conducted a public enquiry.
- ICASA should be requested to, if necessary, amend the regulatory framework to ensure that each of the three tiers are distinct in line with policy objectives.
- That the geographic limitations on community broadcasting be removed to facilitate the licensing of non-profit national services focusing on particular public interest issues such as education.

5.6 Public Broadcasting

There are a range of issues to be considered relating to the SABC and public broadcasting which need to be dealt with in a new White Paper. The strengths and weaknesses of the current system and the impact of digitisation and convergence, including the nature of the service, its mandate, structure, funding and governance and oversight, must be taken into account.

R97. PUBLIC BROADCASTING POLICY REVIEW

The Panel notes that

- Many of the issues regarding public broadcasting have been extensively canvassed during the Green Paper and Discussion Paper phases.

- While the Discussion Paper published by the Minister in November 2014 takes in to account many of the submissions made in the Green Paper on the role and mandate of the SABC, and thus identifies core issues, further research on many of the areas, including, for example, the cost of the mandate and appropriate funding models, is required to address challenges faced by the SABC.
- Such research could be incorporated into any future paper/s issued as part of a public broadcasting review to assist in promoting informed debate on this.

The Panel therefore recommends that:

- a) A specific public broadcasting policy review process with a tight timeframe must be urgently instituted given the critical role that the SABC and public interest content play in South Africa.
- b) This would be a similar process to that undertaken by the then Independent Broadcasting Authority in 1996 when finalising what was called the Triple Inquiry Report. Thus it is proposed that
 - i. Such a participatory process should be overseen by an entity that is independent from the SABC, such as the regulator.
 - ii. The terms should be clearly set and cover at least the specific areas identified in Sections 5.6.1 and 5.6.2 below.

5.6.1 Public service publisher

R98. PUBLIC SERVICE PUBLISHER

The Panel has considered the need for establishing a public service publisher:

- With the responsibility of *commissioning, promoting, aggregating and distributing local content, as well as ensuring the survival of local content in the digital media environment.*
- To make content available *on a non-exclusive basis* to be shared across multiple platforms.

Having considered all of the submissions the Panel is of the view that there is no need for a public service publisher. The SABC however should be required to ensure public programming is available across all platforms.

5.6.2 The mandate of the SABC, funding, oversight and accountability and governance

The SABC's mandate is currently outlined in its Charter in the Broadcasting Act and is thus set by Parliament. Parliament approves the Corporation's operational plan and budget taking into account its mandate. ICASA is required to translate the Charter into licence conditions.

R99. ADAPTING THE SABC MANDATE

The Panel has considered:

- The broad roles and responsibilities for the SABC in a multi-platform, multi-channel, multi-screen environment.

- What approaches may be taken in determining the mandate and how this mandate then determines what funding is required, the mechanisms for raising funds and the governance and oversight model of the public broadcaster.

The Panel notes that:

- There was broad consensus during the policy review process that the SABC mandate needs to be adapted to address the changed environment.
- It is also necessary to ensure that the broadcaster's mandate is clear to facilitate greater oversight.

The Panel therefore recommends that

- a) The SABC's mandate should be finalised during the public broadcasting review (*See Section 5.6 above*).
- b) The review further assesses and reports on the requirements and associated processes for undertaking future reviews of the mandate.
- c) The agreed on remit could also be used to determine:
 - i. How much funding the SABC requires;
 - ii. The ongoing relevance of the split between public and public commercial channels and services;
 - iii. Proposals from the public on privatising some of the existing services of the SABC e.g. public commercial radio services;
 - iv. The best mechanisms for funding. In this regard it is recommended that a cost-benefit analysis of the proposed mechanisms outlined in the Discussion Paper be finalised and the results of this be included in a paper to facilitate informed participation in the public review process.
 - v. The ideal governance and oversight mechanisms to address previous challenges and ensure accountability by the broadcaster.

5.7 Community broadcasting

There are three core issues in the emerging policy environment which relate to the community broadcasting sector (TV and radio). This includes

- How to ensure the sector is distinct from others and that target audiences are involved in the services;
- How to ensure community-based content and programming is available across a wide range of platforms and devices and that communities have the means to distribute their own content across these; and
- How to ensure non-profit entities are sustainable and viable.

Having examined the issues regarding the above during the policy review process, the Panel has identified the following areas of policy recommendations:

- The reach of community broadcasters and the role of open access TV
- Strengthening licensing and monitoring
- Funding and sustainability

5.7.1 Community television

R100. OPEN ACCESS TELEVISION

The Panel notes that:

- Many of the licensed community television channels are in partnership with private players and essentially operate as local commercial services.
- ICASA licensed these channels without developing regulations for the sector thus exacerbating the challenges faced.
- The private partnerships have possibly been the result of the challenges in funding community television services given the resources involved.
- Government does not have the resources to support community television services across the country resulting in inequitable access to such services.

The Panel therefore recommends that

- a) The licensing framework for community broadcasting must be amended to ensure ICASA can effectively oversee the licensing and monitoring of such services.
- b) Individual community television licences be phased out and instead a framework for open access television be developed providing the mechanisms and support to allow communities to produce and air programmes.
- c) Existing services be migrated to the open access platform.
- d) A policy framework must be put in place to allow for non-profit public interest channels to be included on multiplexes (such as educational channels).
- e) Commercial local and provincial channels are licensed (after the development of a regulatory framework and assessment of viability) so that interested private players do not end up even inadvertently subverting the objectives of the community/non-profit tier in order to get such a licence.

5.7.2 Strengthening licensing and monitoring

R101. LICENSING AND MONITORING OF COMMUNITY BROADCASTERS

The Panel recommends that the investigation which it has called for in respect of the reach of community broadcasters be extended to include in its purview how licensing and monitoring may be strengthened. This investigation should include an assessment of the following mechanisms:

- a) Specific provisions to ensure that community services remain in the hands of the community. Such rules could be included in policy/legislation or ICASA could be charged with promulgating regulations to ensure that any partnerships or agreements entered into do not in any way undermine community control.
- b) A specific community broadcasting class licence to ensure that the policy objectives of diversity are met, and that the framework does not inadvertently favour more advantaged communities. The regulator could be specifically tasked with ensuring diversity through the licensing process. The policy/law could also bar licensing or authorisation of services that would directly compete with each other.

- c) The process for renewing community licences could specifically allow the regulator to refuse applications if a licensee has not complied with rules and regulations.
- d) The regulator could be given power to intervene in situations where challenges are experienced. This could include provisions enabling co-regulation – with ICASA being empowered to set criteria to be met by such co-regulatory structures and developing partnerships in this regard.
- e) ICASA could be required to conduct and publish regular reviews of the status of the entire content sector, including assessment of whether or not programming is distinct and diverse and levels of competition. Regulatory strategies and plans should be developed to address any challenges identified.

5.7.3 Funding and sustainability

R102. FUNDING AND SUSTAINABILITY

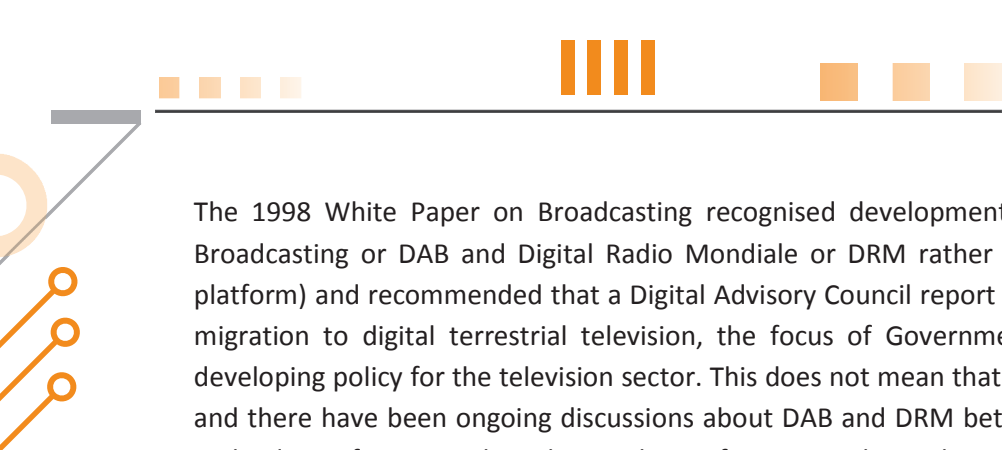
The Panel recognises that there is a need to coordinate different support programmes for the community broadcasting sector across government to ensure there is no duplication and that resources are used effectively. This includes coordination between the MDDA and other community broadcasting support programmes based within Government departments, content/programming funds in other content entities (e.g. the NFVF, the National Lottery and Provincial Film Commissions).

The Panel recommends the following support mechanisms and approaches:

- a) The DTI must be tasked to develop a specific framework for music royalty payments to SAMRO by community broadcasters.
- b) Investigate the possibility of granting section 18(a) tax status to community/non-profit media projects which would assist such projects to raise funds from a wider base.
- c) The development of a framework to assist community and non-profit services with transmission costs.
- d) A review of MDDA funding.
- e) An assessment of how news and current affairs programming on both community radio and television could be specifically supported in order to ensure that services are able to fulfil obligations in this regard.

5.8 Private broadcasting: Digital Radio

Policy recommendations regarding private broadcasting/audiovisual content providers, such as those dealing with fair competition, diversity and plurality and South African content in a multi-channel, multi-screen environment are dealt with in other sections of this Chapter and other Chapters of the Recommendations Report. Issues around spectrum are dealt with in the Infrastructure and Services Chapter (Chapter 3). This section does not repeat these recommendations but rather focuses on digital radio as this is not covered anywhere else in the report.



The 1998 White Paper on Broadcasting recognised developments in digital radio (Digital Audio Broadcasting or DAB and Digital Radio Mondiale or DRM rather than audio services on the DTT platform) and recommended that a Digital Advisory Council report on this.⁴⁸ Given ITU timelines for migration to digital terrestrial television, the focus of Government has been predominantly on developing policy for the television sector. This does not mean that digital radio has been neglected, and there have been ongoing discussions about DAB and DRM between government, the regulator and industry forums such as the Southern African Digital Broadcasting Association (Sadiba). DAB was adopted as a South African standard by the South African Bureau of Standards (SABS) in 2005. Trials of digital radio services are currently being undertaken by the NAB and Sentech.

R103. DIGITAL RADIO

The Panel notes that:

- Unlike television, the ITU has not made it mandatory for radio to migrate to digital radio transmission.
- It has therefore been left up to individual governments to decide on approaches to digital radio and whether or not to migrate to the new platform.
- ICASA in its 2013 Terrestrial Broadcasting Frequency Plan indicated that a switch-off date for AM and FM transmission in South Africa would not be set, though it stated that digital audio broadcasting would be an additional audio service available.

The Panel recommends that:

- The ICASA decision not to make a determination on the switch off of AM and/or FM signals be endorsed, and that the licensing of DRM and DAB services must be facilitated in parallel.
- Government, together with other stakeholders, must in the meantime focus on trialling technologies, developing a licensing framework, setting aside spectrum, encouraging take-up of receivers (in motor vehicles and in houses) and actively promoting awareness of the technology.
- ICASA must establish a standard stipulating that all imported devices should have digital radio receivers.

5.9 Competition related issues

A number of concerns relating to fair competition were raised during the policy review process. These include issues about competition for premium content, concerns about competition within particular broadcasting sectors (i.e. the pay TV market or FTA market), between different tiers (FTA and pay TV) and between broadcasters and new services (including social media, Internet television and audio streaming, IPTV and VOD for example). While digitisation and convergence do lower certain barriers to entry (including spectrum constraints), new challenges relating to market access and consumer choice may arise. There may also be a need to reconsider market definitions if telecommunications operators, for example, increasingly distribute broadcasting-like content.

⁴⁸ Note that the then Minister established the Digital Advisory Council which was dissolved after it submitted a report.

R104. ICASA INQUIRY INTO COMPETITION RELATED ISSUES

The Panel notes that

- There are differences on the roles of ICASA and the Competition Commission in dealing with competition issues.
- These difference centre on when *ex post* or *ex ante* regulation should be used to address alleged unfair practices.
- Concerns about ICASA during the policy review focused on its capacity to deal with competition-related concerns even though the EC Act of 2005 empowers it to do so since 2005.

The Panel has considered the following competition related issues and recommends that they need to be the subject of specific inquiries by the regulator, together with the Competition Commission. Furthermore, it is recommended that the policy-maker and Parliament set timelines for the conclusion of such inquiries.

a) Competition between FTA and pay TV

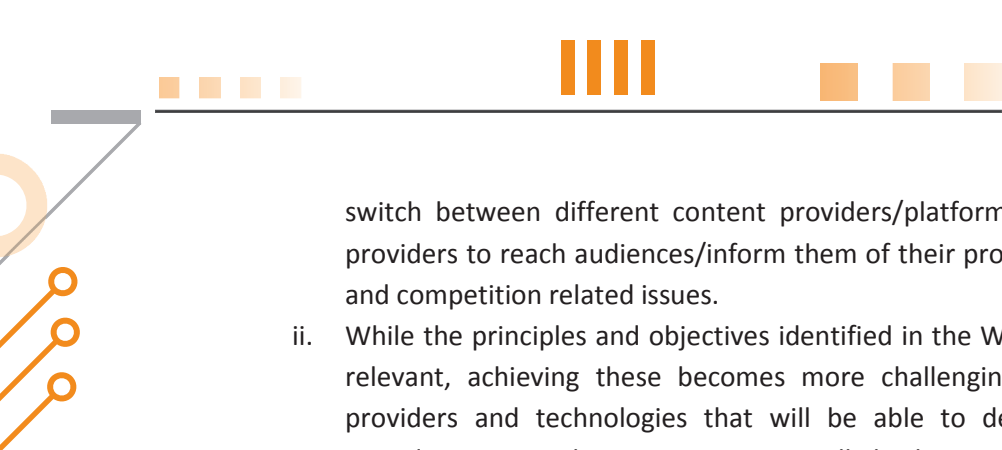
- i. Since the promulgation of the EC Act in 2005, the number of subscribers to pay TV and thus total subscription revenue has increased and now exceeds total TV ad revenue. According to PwC, total subscription revenue was less than total TV ad revenue in 2005, but has since overtaken adspend. Given this, there is a need to review the existing limitations to assess whether or not limitations on access to advertising and sponsorship by subscription operators need to be reduced, taking into consideration if they remain relevant given convergence.

b) Competition within the free to air market

- i. There were a number of concerns raised during the policy review process regarding the perceived unfair competitive practices of the SABC.
- ii. In particular issues were raised concerning whether the SABC's reliance on advertising undermines its public broadcaster's public mandate and whether this results in unfair competition with commercial broadcasters.
- iii. The White Paper on Broadcasting divided the SABC into public and public commercial divisions. It stipulated that advertising revenue for the public wing of the SABC "*will be less than that of the commercial arm*" and should not be the "*predominant form of revenue*" for public stations and channels.
- iv. In addition questions were raised about the broadcaster's failure to produce separate accounts for its commercial and public services. The broadcaster on the other hand has argued that increased competition and the introduction of DTT will further segment advertising revenue and threaten its viability.

c) Ease of switching/technical access

- i. New services driven by new technologies can potentially facilitate a vibrant, dynamic and competitive environment with increased audience access to a diverse range of content. They can also however result in new bottlenecks, entrench incumbent positions and/or create new dominant players. The ease with which customers can



switch between different content providers/platforms linked to the possibilities for providers to reach audiences/inform them of their products/services are key consumer and competition related issues.

- ii. While the principles and objectives identified in the White Paper of 1998 might still be relevant, achieving these becomes more challenging given the range of different providers and technologies that will be able to deliver content to audiences. In considering any policy interventions it will also be essential to ensure that these do not even inadvertently stifle innovation and investment.

d) Premium Content

- i. Premium content is critical to attracting and retaining audiences and subscribers and therefore to the success of pay TV. Agreements giving a broadcaster exclusive rights to premium content over an extended period are therefore seen as a potential significant barrier to entry to new content services.
- ii. At the same time, exclusive rights to such content are critical to the attraction and retention of subscribers/audiences and therefore the viability of services. The selling of exclusive rights is also an important source of revenue for rights holders, such as certain sporting codes. Policy interventions, if necessary, are therefore generally focused on ensuring fair opportunities for audio-visual content providers to compete for exclusive rights.

e) Vertical integration

- i. The 1998 White Paper on Broadcasting stated that vertical integration between distribution and broadcasting services should be minimised and the regulator should hold an inquiry into this.⁴⁹ ICASA has not held such an inquiry.
- ii. Given digitisation and convergence, vertical integration is an area in which policy intervention should be considered. This is important since vertical integration of content producers, broadcasters, technical platforms, telecommunications/network services, devices and/or customer management services can result in market foreclosure by making products and programmes exclusive to certain devices or platforms or by bundling TV and communications services (triple play) at a discount, for example. Vertically integrated broadcasting/communications, distribution and content companies can furthermore limit access by end-users to products and programmes/content produced by competitors.
- iii. In this regard, some stakeholders stated that vertical integration of companies has happened organically as companies need to build in-house capacity to grow the business and realise efficiencies across the value chain thereby, they argued, realising value for money from a consumer perspective. Others however said that such vertical integration can also arise from abuse of market position and lead to exploitative pricing to the detriment of consumers.

⁴⁹ Department of Communications, "White Paper on Broadcasting Policy", Chapter 7: Digital Convergence and Multimedia, section 7.3, Policy Framework, 1998

f) Discoverability of content

- i. Discoverability of channels/programming is another issue linked to access to content and vertical/horizontal integration.
- ii. Discoverability of channels/programming on the electronic programme guide (EPG) of a multichannel television service or, with convergence, on home screens of connected TV sets or on-demand platforms, is potentially a competition related concern.
- iii. EPGs have been used by multichannel subscription services in South Africa and with the introduction of FTA multichannel television will be used on the DTT and FTA satellite platforms as well.

5.10 Diversity

Diversity and plurality at an ownership, content and audience level are key principles underpinning the South African broadcasting policy and legislative framework. The continuation of a three tier system, which is recommended by the Panel, is one means to facilitate this. Existing broadcasting laws and policies also specifically require the regulator to consider diversity at an ownership, audience and content level in deciding on licences and developing regulatory policies. In the future, broadcasting-like content will be available across a range of platforms, channels and devices potentially increasing the diverse range available. The key question which the Panel has endeavoured to respond to concerns how policy may assist in realising this potential.

After considering related responses during the policy review, the Panel has focused its recommendations on four core linked areas:

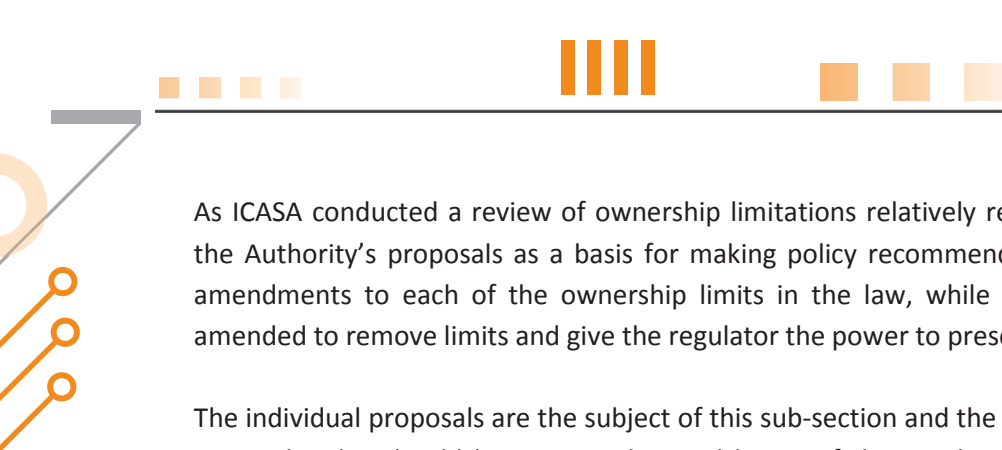
- Diversity of ownership;
- Diversity of news, information and analysis;
- Language diversity; and
- Audience diversity.

5.10.1 Diversity: Ownership

This section focuses on current restrictions in law and policy that apply only to broadcasters. General provisions applicable to all licensees under the EC Act such as promotion of black economic empowerment are dealt with in the Industry Growth Chapter.

A number of limits aimed at promoting diversity of ownership of broadcasting services and media are included in current policy and law. These include limits on the number of radio and television services any one entity can control, cross-media controls and limits on foreign ownership. The rules are aimed at ensuring that the broadcasting sector is South African controlled and that the potential effects of media concentration are limited. Such rules are vital to a well-functioning democratic society by preventing too much influence by any one media owner. Given changes in the environment, existing ownership limitations should be assessed as to whether or not they remain relevant given that digitisation and convergence allow for many more licensed and unlicensed services.





As ICASA conducted a review of ownership limitations relatively recently (2011),⁵⁰ this report uses the Authority's proposals as a basis for making policy recommendations. ICASA proposed specific amendments to each of the ownership limits in the law, while also suggesting that the Act be amended to remove limits and give the regulator the power to prescribe limitations.

The individual proposals are the subject of this sub-section and the Panel has considered whether or not such rules should be set in policy and law or if the regulator should be given the power to determine these. The Panel has considered the following issues in respect of ownership:

- **Limitations on the number of radio licensees:** Policy and law currently allow one entity to control two AM licences and two FM licences. ICASA has proposed three amendments to current provisions:
 - Dispense with the distinction between AM and FM licences;
 - Provide for a percentage based rather than numerical limit and that “no person may control more than 35% of the number of commercial sound broadcasting services”;
 - One person may not exercise control over more than two commercial radio licences which have the same licence areas or substantially overlapping areas.
- **Limitations on the number of television licences:** ICASA proposed that the limitation that no person can control more than one commercial television licence remain. In 2005, ICASA stated that it would recommend that limitations on the number of television licences any one entity can control not apply to subscription broadcasting services.⁵¹
- **Cross-media controls:** ICASA proposed the following cross-media controls:
 - No person who controls a newspaper should be allowed to control both a commercial radio and commercial television licence.
 - No person who is in a position to control a newspaper may be in a position to control a radio or TV broadcasting licence in an area where the newspaper has an average weekly ABC circulation of 25% of the total newspaper circulation if the licence area of the radio or TV service licence overlaps substantially with the circulation area of the newspaper
- **Foreign ownership limitations:** ICASA proposed the following limitations in relation to foreign ownership of commercial broadcasting licensees:
 - One foreign person may not hold securities, either directly or indirectly, equal to or exceeding 25 per cent in a South African unlisted company which controls a commercial broadcasting licence ;

⁵⁰ ICASA, “Findings document on the review of ownership and control of commercial services and limitations on broadcasting, electronic communications services and electronic communications network services”, Government Gazette no 34601, 15 September 2011. This paper considered recommendations on changes to ownership controls made by ICASA in 2004 and endorsed proposals made then.

⁵¹ ICASA, Subscription services: Position Paper, 1 June 2005

- More than one foreign person may not hold securities, either directly or indirectly, equal to or exceeding 35 per cent in a South African unlisted company which controls a commercial broadcasting licence;
 - No foreign person may hold securities, either directly or indirectly, equal to or exceeding 25 per cent in a South African listed company which controls a commercial broadcasting licence.
- **Exemption:** ICASA also proposed introducing a clause allowing it to exempt a licensee from the limits on good cause shown and if necessary impose additional obligations as a result of the exemption.

R105. SUBMISSION OF ICASA RECOMMENDATIONS TO PARLIAMENT

The Panel notes that the foregoing recommendations by ICASA⁵² on amendments to the law have not as required by law been put forward by the Minister for Parliament's consideration.

The Panel therefore proposes that:

- a) The above listed proposals in respect of the following issues be urgently submitted for Parliamentary decision:
 - i. Limitations on the number of radio licensees
 - ii. Limitations on the number of television licences
 - iii. Cross-media controls
 - iv. Foreign ownership limitations
 - v. Exemption
- b) Given convergence and the time that has passed since ICASA's recommendations were submitted, it is critical that the Parliamentary review extend the inquiry to cover, the following:
 - i. Whether and if so to what extent ownership limitations should be extended to on-demand content providers?
 - ii. With regards to cross-media controls whether recommendations be extended to other news producers, including online providers?

MINORITY RECOMMENDATION: The proposed review also include in its scope whether there is still relevance in cross media limitations given that convergence allows services to be available across multiple media platforms.

⁵² ICASA, "Findings document on the review of ownership and control of commercial services and limitations on broadcasting, electronic communications services and electronic communications network services", Government Gazette no 34601, 15 September 2011. This paper considered recommendations on changes to ownership controls made by ICASA in 2004 and endorsed proposals made then.

5.10.2 Diversity of content

The policy review process has identified the following issues which need to be addressed:

- **Diversity in news, information and analysis**

The Panel considered a number of submissions specifically raised with regards to diversity in news, information and analysis, and whether an increase in the number of outlets would promote diversity. Internationally, the need to re-emphasise local news and current affairs of significance to a specific geographic areas has been highlighted. The other concern in respect of news diversity was whether an increased focus on exclusive news agreements would limit the range of news, analysis and opinion.

- **Language diversity**

The need to extend content in all South African languages, including sign language, across all platforms in line with constitutional objectives is another key issue. The introduction of the multi-screen, multichannel environment provides greater opportunity for content distribution in all languages. Content in all official languages could also be a key driver of uptake of broadband technology, given the popularity of multilingual television drama content.

- **Audience Diversity**

Concerns have been expressed that the objective of reaching all audiences, regardless of locality, class, gender and age, among other things, has not yet been achieved. Questions have been raised, for example, that services tend to be urban focused and target the same LSM groups (neglecting the needs of rural people and those in lower LSMs among others) and that women, children and youth and persons with disabilities are not adequately catered for currently.

R106. CONTENT DIVERSITY

Having considered the range of submissions in respect of Diversity in news, information and analysis; Language diversity; and Audience Diversity, the Panel recommends that

- a) The public broadcaster should be specifically charged with ensuring content diversity, language diversity, and reach to different audiences across all platforms.
- b) The definitions of diversity should be explicitly defined to cover all audiences and more clearly define content diversity and news, information and analysis diversity.
- c) Local news must be prioritised, and that the regulator must develop a regulatory framework which compels local news coverage, the extent to which local coverage must prevail, and mechanisms for the monitoring thereof.
- d) Diversity of language will be easier to attain in a multi-channel environment and therefore regulation must be developed to ensure adequate diversity in content such that accessibility to content is expanded to all South Africans.
- e) As regards language diversity on radio, specific measures should be put in place to ensure this across all three tiers.

5.11 South African music and television content

According to the 1998 White Paper “*broadcasting plays an integral role in developing and reflecting a South African identity, its character and cultural diversity within the framework of national unity*”.⁵³ In line with this, it stipulated that all broadcasters should commit resources and airtime to South African programmes and music and:

- Television broadcasters must provide a mix of their own productions and programmes produced by independent South African producers.
- Programming on all broadcasting services should be “*predominantly South African*”.

The above provisions are still relevant. Key issues during the policy review process considered how policy should be amended to improve these provisions, such that they withstand the currently evolving content environment.

In the course of the policy review, the Panel noted the differing views on the best approach to promote South African content in the future. Differences centred on whether content regulation would remain relevant and which entities the requirements should apply to. There does appear, however, to be consensus that there is a need to find innovative ways to fund traditional South African programming and content for new media platforms.

The Panel considered policy issues in respect of the following

- **Incentives, funds and pay-or-play provisions**

There is a need to develop creative ways to boost South African audio-visual content production. As such the EC Act provides for a range of mechanisms to meet the objective of ensuring South Africans have access to a range of creative programming, including airtime and expenditure quotas. ICASA has to date, however, only imposed quotas on the amount of programming or music to be aired. Government thus must explore pay-or-play options further to establish how any funds collected could best be used to promote the industry.

- **South African content on traditional broadcasting services**

Consideration during the review process, in this regard focused on the following:

- Whether the status quo would remain, with an emphasis on the need to continue to reinforce South African content and music in all genres and formats across all tiers, with a graduated approach.
- If policy would continue to reinforce the importance of promoting South African content generally and across all tiers, and in specific genres such as children’s content, drama/film, documentaries and/or education.
- Whether regulation would focus only on the public broadcaster and community services while noting the importance of incentivising SA content on commercial services.
- If regulation should focus only on *significant* broadcasters (those with specific audience and revenue levels).

⁵³ Department of Communications, ‘White Paper on Broadcasting Policy’, 4 June 1998, Section 1.3.3: Public Interest

- **Non-linear, on-demand services**

The Panel considered whether on-demand services would be excluded from South African content requirements or not or if content requirements should only apply when on-demand services reach set revenue targets/subscription or user levels.

R107. PROMOTING LOCAL CONTENT ACROSS ALL PLATFORMS

The Panel agrees that, regardless of platform, a range of content across all genres and formats (including music) reflecting South African identity, its character and cultural diversity is still of critical importance. The Panel thus proposes the following in support of strengthening the extent to which local content is promoted across all platforms:

- a) Policy must allow for pay or play options and include detailed provisions on criteria to determine how to calculate the amounts to be paid into a fund/s if a provider elects to pay rather than play such content. The policy should further specify how such funds should be used, which entity they should be deposited into (with due consideration for existing content related funds) etc.
- b) The policy should continue to reinforce the importance of promoting South African content generally, on all platforms and across all tiers.
- c) Policy must focus on regulation of content in specific genres such as children's content, drama/film, documentaries and/or education. A range of options for incentivising the airing of particular genres of programming are possible including, for example, limiting funds and existing incentives (such as tax breaks on content) only to broadcasters that meet certain minimum quotas (financial or airtime based) or voluntarily opt to comply with regulation. Radio content provisions should remain in place with graduated increase in quotas.
- d) That a focus on independent producer quotas be maintained but should also be extended to independent channels in television bouquets.

5.12 Access to public interest programming

There are currently a number of provisions in place in policy, legislation and/or regulation to ensure that audiences can access public interest programming. These include:

- Must carry provisions
- Rules on FTA broadcasting of sports of national interest.

In the multi-channel, multi-screen era where audio and audio-visual content will be available on a range of platforms and devices, consideration should be given to provisions on prominence of public interest content/public broadcasting to promote access by audiences to such content.

5.12.1 Must carry rules

The EC Act states that ICASA must develop regulations on the extent to which subscription broadcasters must carry SABC TV programmes, “*subject to commercially negotiable terms*”. The regulator finalised must carry rules for the analogue environment in 2008.

R108. ASSESSMENT OF MUST CARRY RULES

The Panel notes that

- There is a need to consider if the legislative requirements on must carry have had the intended effects in South Africa and have achieved the underlying objectives for these requirements.
- In developing a new policy framework it is also important to consider whether or not such provisions will remain relevant in a converged environment.

The Panel supports the continuation of must carry rules and recommends that policy must consider if:

- a) Must carry provisions are extended to all FTA broadcasters, and whether this should be on a voluntary basis or not;
- b) Further consideration be given to whether or not to compensate FTA television broadcasters for carriage by subscription broadcasters according to the value they add to such networks and if so what criteria would be used to determine value.

MINORITY RECOMMENDATION: The status quo should remain and current provisions apply with no changes.

5.12.2 Prominence of public interest programming/public broadcasters

The issue of prominence on programming guides (EPGs) and catalogues of public interest programming (including South African content) is a new issue that arises, especially in a digital environment. While similar to the issue of discoverability of such programming highlighted in the section dealing with fair competition, prominence is in some countries separately enforced with stricter requirements specifically aimed at ensuring easy access to the public broadcaster/public interest programming e.g. South African content. Current South African policies, laws and regulations do not deal with the issue of prominence.

R109. EASE OF ACCESSING PUBLIC INTEREST CONTENT

The Panel is supportive of the view that citizens must be able to access public interest content such that the design principle of ease-of-use is upheld. The Panel therefore recommends that

- a) The regulator must be required to assess the need for regulation to ensure prominence of certain content/channels/services and develop rules as necessary.
- b) Rules should be limited to those devices and platforms used by a significant number of people.
- c) As with must carry requirements, policy would need to determine whether or not the principle of prominence applies only to the SABC/public broadcaster or is extended to other

broadcasters which have public interest related obligations in relation to specific genres of programming, universal service, language and/or South African content.

5.12.3 Events of national interest

South African policy and law currently include measures to ensure that sports of national interest are shown free to air. The sporting events that are covered by these provisions are defined by the regulator in consultation with the Minister and the Minister of Sport.

R110. STRENGTHENING PROVISIONS FOR EVENTS OF NATIONAL INTEREST

The Panel notes that specific issues related to events of national interest include:

- If the listing should only apply to sports of major importance or more broadly to events (as per the European AVMS).
- If there is a need to also consider requirements (again as per the AVMS) on short reports of key events so that these can be covered on, for example, news broadcasts.
- If the current provisions in the EC Act are sufficient.

The Panel supports the view that there must be further strengthening of current provisions and recommends that:

- a) Public interest matters be broadened to include events of major public importance.
- b) There must thus be a definition of what constitutes such events.
- c) That policy should be developed to ensure that rights holders to listed events must first offer these to FTA services.

MINORITY RECOMMENDATION: The status quo prevails and Pay TV operators continue to be required to offer listed events to FTA services

5.13 Universal Access: Accessibility and inclusion

Many of the issues above deal with universal access more generally, including, for example the mandate of the public broadcaster to extend its reach and ensure access to a range of programming in all official languages. This section therefore deals specifically with access to programming by persons with disabilities.

Accessibility by and fair representation of persons with disabilities was raised extensively during the policy review process. Concerns were raised about whether the SABC provides sufficient sign language and sub-titles for those with hearing disabilities and if ICASA enforces its guidelines and licence conditions in this regard. Concerns were also raised about inclusion of persons with disabilities in programmes broadcast.

R111. ACCESSIBILITY AND INCLUSION

The Panel therefore considered whether or not current provisions need to be revised to address the possibilities as well as the challenges of new technologies and the introduction of new services such as on-demand content and broadcasting-like services broadcast over the Internet.

The Panel recommends that:

- a) More must be done to facilitate access to content by persons with disabilities.
- b) Policy should stress the role of the regulator in ensuring that persons with disabilities are consulted and involved in the process of developing any guidelines or rules and in ensuring their implementation.
- c) The following approaches must be considered for inclusion in policy and/or law:
 - i. In relation to accessibility of terminal equipment, it is suggested that the policy require that television broadcasters and manufacturers together develop common standards and approaches to ensure that hard of hearing persons who use hearing aids are able to use assistive listening devices of their choice. Should the self-regulatory approach not be successful, government will intervene to set standards for terminal equipment.
 - ii. Manufacturers and retailers must be encouraged to ensure all television receiving equipment and related software complies with universal design standards such that the needs of persons with disabilities. Universal design standards will be taken into account when government sets standards for such equipment and the regulator will be required to ensure equipment and software meets universal design standards in type approving equipment.
 - iii. The regulator should develop rules and/or guidelines for electronic programming guides/catalogues/user interfaces to ensure that these incorporate features, as far as practicable, to ensure access to such guides by persons with hearing and/or sight disabilities.
 - iv. EPG rules or guidelines should also require that broadcasters include wherever available information on which programmes are accessible. Standard symbols to indicate which programmes are sub-titled/captioned, have sign language and/or audio description, for example, should be agreed on in consultation with organisations representing persons with disabilities.
 - v. The regulator should develop licence conditions and/or regulations outlining the percentage and genres of television programming/content that should be made accessible to persons with hearing and/or sight disabilities and how this will increase over time.
 - vi. The regulator should work with on-demand providers to encourage them to make their services and content available to persons with disabilities and to consult with organisations representing persons with disabilities in developing self-regulatory guidelines and codes.
 - vii. The regulator should promote self-regulation by broadcasters acting together with organisations representing persons with disabilities to develop standards for the quality of captioning/sub-titling; audio description and sign language to ensure these are understandable and meaningful to audiences.

- 
- viii. Regulatory, co-regulatory and self-regulatory codes relating to accessibility must include provisions to ensure awareness of the guidelines and standards set and mechanisms for adjudication of complaints about non-compliance with these.

5.14 Protection of children, classification and content standards

Protecting children from harmful or age inappropriate content, ensuring adults have sufficient information to choose what they want to watch or listen to (within the law) and promoting fairness, accuracy and ethical behaviour in news, current affairs and factual programmes are the three core objectives of current provisions in policy and law. These must continue to underpin future policy. However convergence and digitisation requires new ways to realise these, given that content will be delivered to multiple screens from a range of platforms and sources.

Under current laws, ICASA is responsible for determining rules on content standards, classification and protection of children for broadcasters. The Film and Publications Board (FPB) is responsible for other content (except for newspapers that are members of a self-regulatory body). ICASA can recognise self-regulatory bodies to enforce such codes and has accredited the Broadcasting Complaints Commission of South Africa (BCCSA). The BCCSA in interactions with the ICT Policy Review Panel said that it is guided by the FPB and ICASA codes in place. The FPB has indicated that its founding legislation will be amended to address any gaps regarding online content. In terms of this law, all content providers covered by the Act must submit information prior to publication.

R112. PROTECTION OF CHILDREN

It must be noted that some aspects of protection have been dealt with in the Institutional Frameworks Chapter. In addition to those, the Panel proposes that the following issues be considered in the future White Paper.

- a) Should on-demand providers be regulated by the FPB as currently, or does the extension of the definition of those that are regulated mean that they fall under ICASA and/or any approved co-regulatory structure.
- b) Consideration must be given to which body (FPB or ICASA's CCC/the BCCSA) should be responsible for complaints about online content provided by broadcasters on their web-pages.
- c) How must similar criteria be applied by all statutory regulators in approving co-regulatory and self-regulatory mechanisms and institutions; and whether ICASA must be required to consult the FPB and ensure any criteria it sets are in line with FPB approaches?
- d) Policy must ensure that complaints procedures are streamlined so that audiences and end-users can easily complain and do not have to first research which regulatory body deals with content it is concerned about. Consideration should be given to whether the FPB and ICASA should be required to set up a portal/complaints office together with other regulatory bodies (statutory, self-regulatory and co-regulatory) to establish a one-stop-shop complaints mechanism.
- e) The means to protect children and provide adequate audience advisories will depend on the medium and platform. Consideration must thus be given to whether there is a need to put in

place explicit requirements and develop uniform approaches to, for example, classification and labelling. Policy must guide as to whether the FPB and/or ICASA be charged with developing these, together with co-regulatory and self-regulatory bodies.

- f) Consumer education will become increasingly important to ensure citizens are aware of mechanisms in place to protect children, avoid content and complain about alleged breaches of codes. ICASA requires broadcasters to provide regular information about the code of ethics and how to complain if they believe standards have been breached. Policy must thus guide whether the regulator must require all relevant licensees to provide similar information about these issues.
- g) Policy must guide whether ICASA be specifically charged with promoting media literacy, and whether specific provisions and powers in relation to this be added to their mandate.
- h) Policy must consider if it is necessary for the regulator to require providers to warn audiences if they are moving from a managed platform that adheres to such standards to an unmanaged platform (e.g. the Internet) given that audiences might not necessarily be aware of this when they shift programmes.

5.15 Commercial communications and editorial integrity

The content of advertisements is regulated by a self-regulatory body, the Advertising Standards Authority. This section does not review this arrangement. It rather focuses on areas currently within the ambit of ICASA i.e. mechanisms to ensure editorial independence from commercial communication (advertising, sponsorship, product placement etc.), protection of editorial integrity and the right to impose limits on the time allocated to commercials.

R113. EDITORIAL INTEGRITY

The Panel recommends that the following challenges be addressed through policy

- a) Convergence is likely to have an effect on the future of commercial communications. There must therefore be policy guidelines on the way the regulator ensures editorial integrity.
- b) There is a likely need, given fragmentation of advertising and audiences and the increased demand for content, to balance protection of editorial integrity, innovation and investment in content. Policy must therefore direct that all paid for content (including advertiser funded programmes) must be clearly identified as such. The regulator must be required to enforce this provision.

5.16 Piracy

R114. COOPERATION ON PIRACY MATTERS

The Panel notes that in terms of recent reconfigurations in government that broadcasters report to the Department of Communications and issues relating to signal piracy and online piracy fall under DTPS.

The Panel therefore recommends that:

- a) Both government departments must cooperate to ensure that piracy is tightened up on all platforms.
- b) Mechanisms to strengthen protection against signal piracy must be incorporated into policy:
 - i. The signal-based approach to piracy adopted by WIPO in its Treaty for the Protection of Broadcasting Organisations must be reinforced.
 - ii. Statutory prohibitions on piracy must be introduced in law.



6 ICT Industry Growth⁵⁴

6.1 Introduction

There is still a long road ahead, to achieve the growth and redistribution and to build a more inclusive and equal society as envisaged in the National Development Plan (NDP). South Africa has set a growth target of five percent by 2019, and has identified various measures and interventions to jump-start the economy.⁵⁵ This chapter focuses on the key challenges in respect of growing the broad ICT industry, and presents policy recommendations which support government's plan to "jump-start" the economy.

The ICT industry currently has pockets of strengths. South African ICT companies rank among world leaders in areas such as mobile software, electronic banking services, pre-payment, revenue management, and fraud prevention systems⁵⁶. The South African IT industry was valued at R77,1 billion in 2011 and is expected to grow at a compound annual growth rate (CAGR) of 8,6% to reach R116 billion in 2016.⁵⁷

While the latter points to a strong base on which to grow, weaknesses must also be addressed urgently. For example, South Africa is a net importer of ICT products, has a low supply of relevant ICT skills, and is serviced by an industry which does not fully represent the demographics of the country. Opportunities for the creation of jobs in the sector, across micro, small, medium and large enterprises must be harnessed. It is especially important to provide more coordinated support and incentives to fast-track growth of entrepreneurial start-ups to match demand, especially in the online services sub-sector. It is critical therefore that government ensures an enabling policy environment. This is the basis of the recommendations in this Chapter, which focus on establishing proper investment policy, building research and development capacity, addressing the skills gap, and stimulating South African innovation and local intellectual property.

6.2 Overview of the Recommended ICT Industry Growth Strategy

The overall strategy in this Chapter distinguishes between three key sub-sectors, each with unique properties and needs viz. the electronics and hardware manufacturing sector; the software, local content and applications development sector; and the ICT services sector. The strategy, in taking into account economic growth theory, factors in the bringing together of resources, capital, and enterprises which jointly contribute to jobs and net economic output.

The following are important to the ICT industry growth strategy:

⁵⁴ NOTE: The recommendations in this Chapter are presented against the backdrop of a more detailed discussion of policy issues, presented in the Discussion paper, Chapter 6, pp 218-261.

⁵⁵ The Presidency, State of the National Address, 17 June 2014, <http://www.thepresidency.gov.za/>

⁵⁶ <http://www.southafrica.info/business/economy/sectors/ict-overview.htm#ixzz2h8sDQxhY>

⁵⁷ SA IT Market Overview for 2011 with forecast for 2012-2016. BMI-T. 2012

- The importance of **stimulating ICT demand**. This must be viewed on the back of the National Broadband Policy which seeks to ensure universal access to ICT infrastructure by 2020.
- Programmatic interventions to **address ICT skills** to exponentially increase the levels of uptake and effective use of technology. This must include a national strategy to increase digital literacy, ensuring specialised skills to use ICT for improved productivity in all workplaces and developing skills to enable South Africans to grow the local software and content, and hardware and electronics market.
- The need to **stimulate national, regional and local systems of research and innovation**, so that locally produced knowledge and IP begins to make a dent in the local economy. The output of ICT goods in the manufacturing, software and content sectors must contribute towards a positive net export situation. A key aspect of this is a focus on social innovation at grassroots community level to give birth to ICT software applications and hard goods aimed at addressing localised social issues, and to support the delivery of government services.
- The development of **innovative funding instruments** which recognise the unique nature of the different sub-sectors, and which will facilitate ease of entry into the market for especially micro-businesses and entrepreneurs.
- The **stimulation of greater investment in the sector**, with measures in place so that investments support the development of local IP and the transformation of ownership.

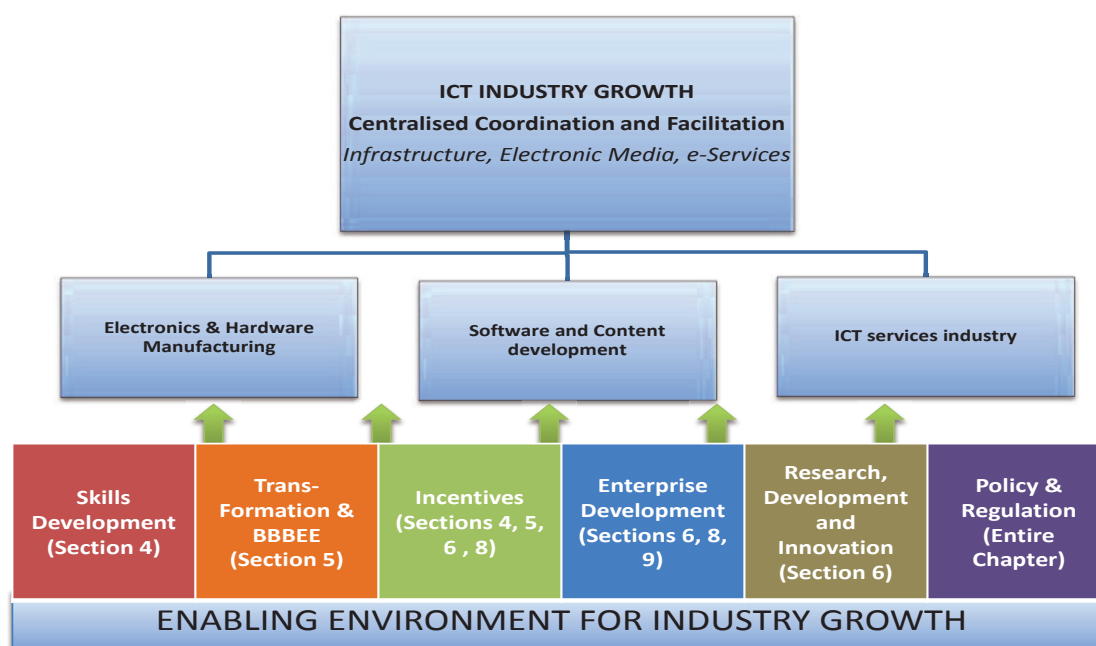


Figure 2: Overview of the ICT Industry Growth strategy

6.2.1 Coordination of ICT Industry Growth

The figure above provides an overview of the foci of the recommendations related to growing the ICT industry. Central to the success of this strategy is the role of a strong coordination function given the cross-cutting nature of the industry.

In the current situation the roles and responsibilities for various issues described in this Chapter flow across several government departments and agencies, including the DTPS, DTI, DST, DBE, iNeSI, IDC, and others. There are already some coordination mechanisms in place e.g. the PICC SIP 15

programme and its Intergovernmental Forum. There is also a government economic cluster, which facilitates inter-government consultation and decision making. Operationalising policy in respect of Industry Growth matters however requires a robust coordination and facilitation nucleus.

R115. ICT INDUSTRY GROWTH COORDINATING MECHANISM

The Panel has considered the future needs for growth, and the wide range of submissions in this regard. It is of the view that coordination is important to achieve improved synergies of the current functions, especially of those between the DTPS, DTI, DST, IDC, DOC and DBSA.

- a) It therefore recommends that an ICT Industry Growth coordinating mechanism be established. This coordinating body will serve two purposes:
 - To advise government; and
 - To facilitate synergies and ensure bottlenecks that are experienced by the ICT industry are mitigated.
- b) This coordinating body must be mandated to make inputs and to work alongside key structures which are already in place, such as the National Broadband Council, and SIP15.
- c) It is further recommended that the work of the coordinating body is structured along the broad sub-sectors of the industry viz. ICT Manufacturing (including the electronics and related hardware sub-sectors), ICT software development (including applications development) and the ICT Services industry (providing maintenance, logistical support, data warehousing, network support etc.). This distinction is necessary to ensure that interventions recognise the uniqueness of each and that targeted support programmes are developed accordingly.
- d) The Panel further recommends that the coordinating body consider how further value chains are created under each of the sub-sectors to ensure effective implementation.

The diagrams on the following page provide a graphic description of two suggested value chains, viz. manufacturing and software applications development.

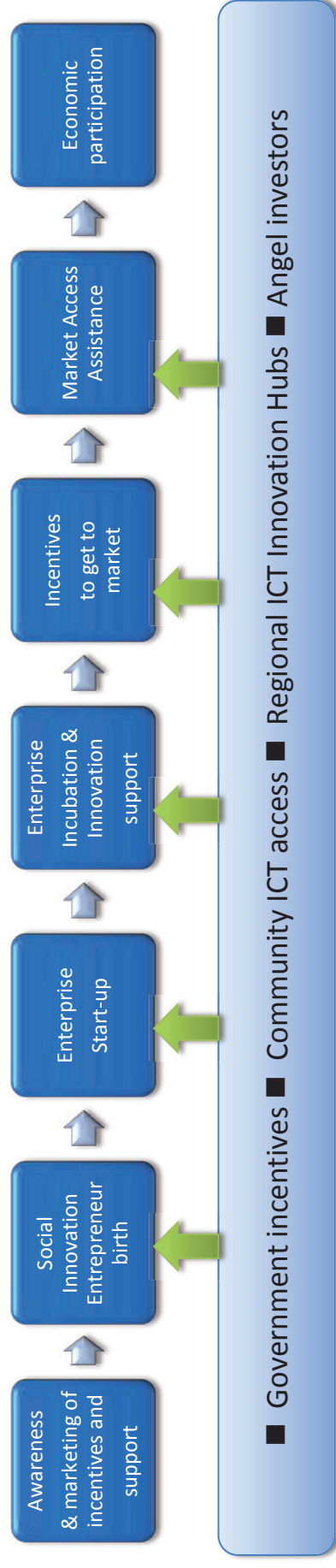


Figure 3: Industry Growth Value Chain (Applications Development, Software Development, Local Content, etc.)

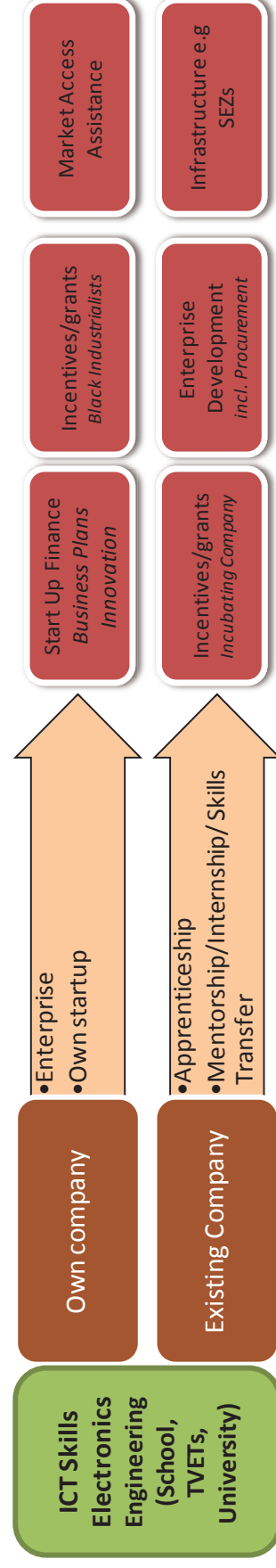


Figure 4: ICT Manufacturing: Industry Growth Value Chain (Electronics Manufacturing, etc.)

6.3 Delineation of the ICT Sector

The ICT sector in South Africa is very diverse, comprising broad areas such as broadcasting and local content, electronic media, postal services, telecommunications, and IT, among others, and which represent both public and private interests. These sectors are in turn supported by electronic manufacturing, repairs and installations.

R116. ICT SECTOR CLASSIFICATION SYSTEM

The Panel notes

- A key issue which impacts on policy concerns the delineation and consequently the classification of a sector. This delineation is relevant to assist in identifying qualifying candidates for special funding incentives and other programmes to support growth of the industry.
- The confusion that surrounds the ICT concept is reflected in the different ways the term is used and defined. The distinction between ICT as a sector and ICT as a theme is particularly important, and thus consideration of a definition is necessary.
- In South Africa there are currently two delineations in use, viz. from the ICT Charter, and from Statistics South Africa's draft for the Information and Communication Technology satellite account.

The Panel recommends that:

- a) A classification system based on Stats SA satellite account is adopted, viz.
 - i. **Sector classification:** The OECD based sectoral classification adopted by Stats SA, would be used to determine eligibility for support schemes developed for the ICT industry.
 - ii. **Product classification:** In addition, the OECD (2009)⁵⁸ provides a products categorisation for both ICT products, content and media products. This could be adopted. The product category "*Printed and other text-based content on physical media, and related services*" however would be excluded.
- b) The DTPS advise Stats SA on the improvement of the classification system, by drawing on the definitions in the ICT Charter, and works with Stats SA to finalise the ICT satellite account;
- c) That all policy and law be subsequently amended to incorporate the revised classification of the ICT sector.

6.4 Transformation of the sector

In South Africa, transformation is a critical policy goal to achieve equal participation in the economy. Transformation is not an issue of race alone. It has to be looked at from a broad industry perspective in terms of ownership, decision-making, business practices, staffing and products, and the society within which it operates. There is a need therefore for continuous and sustainable transformation that adds value to the industry at large and adds to the bottom line. The moral and social reasons for empowerment to succeed also cannot be ignored.

⁵⁸ Organisation for Economic Co-operation and Development, "Information Economy Product Definitions Based on the Central Product Classification (Version 2)", 2009

6.4.1 Broad-Based Black Economic Empowerment (B-BBEE)

The Electronic Communications Amendment Act (Act 1 of 2014) has as one of its objectives the need to “align the Act with broad-based black economic empowerment legislation”. This was achieved through removing references in the EC Act to “historically disadvantaged persons, including Black person” and replacing it with “broad-based black empowerment”.

The ICT Sector Charter, initially drafted in 2005, was gazetted in terms of the B-BBEE Act, in June 2012⁵⁹. It is therefore

- A Sector Code of Good Practice (Sector Code) with the same status as the B-BBEE Codes of Good Practice, published by the Minister of Trade and Industry, in February 2007; and
- Fully binding between and among businesses operating in the industry.

The ICT Sector Code is applicable to all persons, organisations and entities operating in the ICT Sector in South Africa, including government.

R117. ICT CHARTER AND ROLE OF THE COUNCIL

The Panel considered the provisions in both the EC ACT and the ICT Charter, and assessed whether these sufficiently provide for the transformation of the ICT sector, from a B-BBEE perspective.

The Panel notes the following issues which were raised by stakeholders

- That broadcasting no longer falls under the DTPS and the ICT sector charter it was proposed should therefore need to be amended to reflect this.
- The status quo with amendments, if necessary, sufficiently addresses B-BBEE goals.
- An increased focus on skills development is required in the Charter, and appropriate funding mechanisms are necessary.
- That there is no need any more for a sectoral code.

Having deliberated on the various implications the Panel recommends that:

- a) It is not necessary to withdraw the sector codes, as the broad objectives for which they have been devised have yet to be realised.
- b) The status quo would remain given that the DTPS has called for nominations to the ICT Charter Council.
- c) The DTPS must urgently finalise the establishment of the Council, and ensure that the necessary collaborative frameworks are put in place so that those components of the ICT sector under the newly established DOC remain under the purview of the Council.
- d) The Council must be adequately resourced and mandated to urgently put in place monitoring mechanisms to ensure that the Charter is being consistently enforced.
- e) The Council must fulfil all aspects of its mandates including that of an annual review of the threshold for BEE stakes.⁶⁰

⁵⁹ https://www.thedti.gov.za/economic_empowerment/bee_sector_charters.jsp

⁶⁰ An important feature of the Charter compared to the generic Codes of Good Practice is that, if the rand value of the total BEE stake is in excess of R7.5 billion, the measured enterprise is considered to comply with

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- f) The Council ensures that the sector definition is aligned in the ICT charter, once the overall definitions have been reviewed (*refer to recommendation in previous section*).

6.4.2 Applying the Charter in the Government procurement system

Given the magnitude of Government spend on ICT products and services; there have been proposals that the ICT Sector Charter must be used as one of the requirements for participation in Government procurement. It has been suggested that adjustments to the government procurement policies must therefore be implemented.

R118. GOVERNMENT'S ADHERENCE TO THE ICT CHARTER

The Panel notes that in terms of the legislation the sector code is applicable to government as follows:

- All public entities listed in schedule 2 or schedule 3 (Parts A and C) of the Public Finance Management Act that fall within the ICT sector;
- Any public entity listed in schedule 3 (Parts B and D) which are trading entities which undertake any business with any organ of state, public entity or any other Enterprise that fall within the ICT sector.

The Panel recommends that:

- a) The soon to be established ICT Charter Council be mandated to provide oversight of Government's adherence to the provisions in legislation, in terms of its overall mandate to ensure compliance.
- b) Consideration be given to how to address the specific challenges faced by women in the sector.
- c) That penalties are applied to government departments which do not adhere to the Charter.

6.4.3 Equity Equivalent Programmes (EEP) for multinationals

The Codes of Good Practice require that all entities operating in the South African economy make a contribution towards Broad-Based Black Economic Empowerment (B-BBEE). It is, however, acknowledged that there may be multinationals that have global practices preventing them from complying with the ownership element of B-BBEE through the traditional sale of shares to black South Africans. In this instance, and provided that it can be proven that such entities do not enter into any partnership arrangements in other countries globally, the Codes of Good Practice have made provision for the recognition of contributions in lieu of equity. Such contributions are referred to as Equity Equivalent (EE) contributions. These count towards the ownership element of B-BBEE. The value of these EE contributions may be measured against 25 per cent of the value of the multinational's South African operations or may be measured against four per cent of the total revenue from its South African operations annually over the period of continued measurement.

the equity target. The ICT Code calls for the Council to review this threshold annually. As the Council has not been established, this review has not been done.

R119. EQUITY EQUIVALENT PROGRAMMES IN THE ICT SECTOR

The Panel considered whether additional considerations might be considered to ensure the effectiveness of the EEP within the ICT sector. It recommends that:

- a) The current requirement of the DTI requires that all ICT EEP transactions be given a go ahead by the DTPS prior to DTI's approval be maintained, and both the DTI and DTPS to ensure this.
- b) The ICT Charter Council be mandated to undertake a study of the impact of Equity Equivalent Programmes and undertake amendments of the provisions if it is deemed necessary.
- c) Amendments are effected to require multinationals conducting business in South Africa to establish local offices.
- d) The DTI and the DTPS assess how the EEP could address the empowerment of women.

6.4.4 Scope of the ICT Charter

The ICT Charter sets out a definition for the sector. It is widely applicable across a wide number of industries, including the traditional telecommunications, and broadcasting sectors.

R120. SCOPE OF THE ICT CHARTER

The Panel considered whether the current definition of the sector in the ICT Charter sufficiently delineates the ICT Sector for the purpose of promoting BBBEE objectives.

- a) The Panel recommends that the definitions in the ICT Charter be updated once the broad sector classification is agreed upon between Statistics South Africa and the DTPS.

6.5 Investment in the ICT sector

Investment in the ICT sector is a fundamental policy goal for Government, alongside transformation, diversity, universal access, and Black Economic Empowerment. While investment can be approached in broad terms, the ICT industry is slightly complex as each sector is governed by its own legislative and regulatory particularities. Therefore, general economic principles on investment may not necessarily apply. Government, through its Strategic Infrastructure Programme 15 (SIP 15), aims to ensure that investment resources are effectively coordinated in order to expand access to communication technology infrastructure in the country.

6.5.1 Investment in infrastructure and funding demand stimulation

During the policy review several submissions proposed that that funding infrastructure must be a responsibility of both the private and public sector. Suggestions included "collaborative partnership with defined social responsibilities" and harnessing public investment to enable demand by, for example, supporting e-literacy and content delivery or reducing investment risk by becoming the anchor.

The National Broadband Policy, SA Connect, highlights that there is a significant funding gap in relation to broadband infrastructure which will require support from government and the private sector if it is to be addressed. It states"

“What is required are new innovative ways that blend private and government funding sources to fund not only infrastructure rollout, but also critical content development and the provision of public services online. Funding models that share investment risk between the public and private sector are emerging across the globe as the burden for funding cannot be carried by government or private sector alone.”⁶¹

Given this, a different view has to be taken on both the mandate and the sources for a national universal service and access fund (USAF).

R121. FUNDING MODEL FOR ICT INFRASTRUCTURE AND DEMAND STIMULATION PROJECTS

The Panel has deliberated on the funding gap at length, and having considered all of the submissions on this matter, recommends an overhaul of the current funding mechanisms via the USAF.

The Panel recommends that:

- a) A new funding model for ICT infrastructure *and* demand stimulation projects be developed.
- b) The new fund be called the ICT-Development Fund (ICT-DF), and it should provide for the aggregation of new incremental state funding with private sector funding and donor funding.
- c) The USAF is evolved into the ICT-DF and the current institutional arrangements for the USAF are revised.

Detailed recommendations in this regard are presented in:

- Infrastructure and Services Chapter (Section 3.6.3); and
- Institutional Arrangements Chapter (Section 7.7).

6.5.2 Foreign Direct Investments

South Africa has indicated that it wants to attract foreign direct investment (FDI) to enhance growth, productivity and skills. South Africa needs to ensure in doing so that it is well positioned to achieve its socio-economic goals, which will allow for more freedom to attract the kind of FDI that suits the economic goals of the country.⁶²

From an FDI perspective, transnational corporations are constantly seeking out and assessing possible new geographical locations for their investments, while countries compete globally to attract such investments. Beyond the theoretical, and, in some cases, ideological, considerations that may be brought to bear, governments face two fundamental policy options in their pursuit of foreign investment. The first is to do nothing and adopt a passive stance; the second is to intervene actively to obtain maximum benefit from the investment process.⁶³

⁶¹ DTPS, “South Africa Connect: Creating Opportunities, Ensuring Inclusion, South Africa’s Broadband Policy”, 20 November 2013, pg 22.

⁶² Samuel, C. “The Dark Side of Foreign Direct Investment: A South African Perspective”, South African Institute of International Affairs, December 2013

⁶³ Economic Commission for Latin America and the Caribbean (ECLAC), “Active policies for attracting foreign direct investment: International experiences and the situation in Latin America and the Caribbean”, Foreign Investment in Latin America and the Caribbean, Unit on Investment and Corporate Strategies of the ECLAC Division of Production, United Nations, May 2007.

R122. FOREIGN DIRECT INVESTMENT

South Africa faces a challenge particularly in the ICT sector if it continues to adopt non-active and less targeted policies. As a result, the DTPS, in concert with the DTI and other relevant organs of government, must consider basic models based on best practise.

The Panel has considered two modes of policy:

- **Passive policies** rely on a country's comparative advantages and are confined to the establishment of policy frameworks geared to facilitating investment inflows. Passive policies would be the most appropriate for a country whose attractions surpass those of its competitors.
- **Active policies** entail specific measures designed to attract the types of investment that have a greater potential to translate into positive externalities (for example, production linkages or the generation of value added, know-how and employment).

It is proposed that active policies, are required to facilitate FDI in the ICT Sector. In pursuance of an active policy framework, the Panel recommends a holistic FDI policy for the ICT sector be jointly developed by the DTPS and the DTI, and that the following issues are taken into consideration:

a) Research, Development and Innovation

Promoting domestic ICT innovation and encouraging FDI in the ICT sector do not preclude each other. FDI in the sector can help develop the foundation for a strong domestic ICT industry by facilitating domestic access to new technologies and advancing the IT skills of domestic workers. South Africa must encourage FDI by investing in fundamental scientific research and making the results available for licensing and use by the private sector. In addition policy which encourages RDI investment by the private sector must be developed. In this regard we advocate that an investigation be undertaken to implement a compulsory contribution from industry to RDI, based on thresholds of turnover.

b) Adherence to international trade commitments

Any measures taken to encourage the growth of South Africa's ICT sector must comply with South Africa's international trade commitments.⁶⁴ This requires first and foremost that South Africa adheres to the principle of "national treatment" by eliminating any measures that impose differential treatment based on the origin of goods or services or the nationality of suppliers. Restrictions on cross-border data flows should also be avoided. Such measures could be incompatible with South Africa's trade commitments; they also could increase prices for IT goods and services, stifle competition, and discourage foreign investment.

⁶⁴ GATS commitments for WTO Member States include cross-border supply for non-resident service suppliers; consumption abroad; commercial presence; presence of natural persons. GATS commitments are further required to be set out for specific sectors, including limitations on market access; the national treatment obligation; and additional commitments, for example licensing.

c) **Balancing FDI and B-BBEE**

The Panel notes the tension between attracting foreign investment and implementing B-BBEE that adds to the cost of doing business. It is therefore proposed that these two priorities be aligned:

- i. First, incentivise RDI spend in ICT through the ICT Charter to create a supportive business environment generating enough Intellectual Property (IP) and other “soft-infrastructure” to make it easier for new black-owned market entrants (amongst others) to access resources. This will allow smaller companies to organically link in to international ICT logistical chains and attract further investment for expansion. Similarly, the equity equivalent principle is a useful tool to bring in foreign companies wherever the need is, as domestic companies would require the skills transfers to be able to access the international market.
- ii. Second, there needs to be seamless adjudication of investment projects for their codes of good practice ratings, as the currently assigned government resources do not allow for a reasonable turnaround time.

6.5.3 Harnessing local benefit from foreign investment

In the post 1994 era, reforms have given priority to the removal of barriers to inward investment, while strengthening the resilience of the economy to the volatility of foreign capital flows that is frequently observed in emerging economies. One important element of reform has been measures to facilitate inward foreign direct investment. Such investments can yield additional economic benefits including the transfer of technology and skills to the host economy which in turn can promote productivity and growth, linkages with domestic firms supporting employment and growth in other parts of the economy and the opening of new markets through cross-border trade. These benefits are not necessarily automatic and are likely to vary across economies, sectors and investments.⁶⁵ This perspective is endorsed in the NDP.

It is thus important that a fine balancing act from a policy perspective prevails which will not deter investors, but which will ensure that sustainable value to the local economy is created.

R123. DERIVING LOCAL BENEFIT FROM FOREIGN INVESTMENT

The following recommendations are proposed to ensure local benefit is attained from foreign investment:

a) Consider FDI’s ability to create local IP and technology transfer

Where foreign direct investments are subjected to instruments such as National Industrial Participation Programme or Equity Equivalence Programme, their initiatives should be approved based on their ability to create local IP and transfer of technology.

b) OEMs to use SA owned companies within the manufacturing value chain

Original Equipment Manufacturer (OEMs) investments must be required to create opportunities for local industries in the manufacturing value chain e.g. supply of parts, production of packaging material, etc. Policy and law must further require that licensees

⁶⁵ National Treasury, “A review framework for cross-border direct investment in South Africa: Discussion document”, February 2011.



who source network equipment and solutions internationally must undertake maintenance locally so that capacity is developed.

c) Actively market the EEP internationally

The Equity Equivalent programme, to date, is a suitable instrument to promote FDI. However, international investors with little knowledge about B-BBEE may have a view that the EEP is a barrier to entry in the South Africa market. The DTI in conjunction with DIRCO and the DTPS must thus implement a marketing campaign targeting international ICT companies to promote EEP internationally.

6.5.4 Funding models and incentives

There are currently various schemes in place driven, by a host of government entities, with the DTI playing a foremost role. Therefore there is a fairly substantive base of support for industry growth in terms of Government support. However, problems which prevail include a lack of awareness, and the inability to assess which is the best organisation to approach given the specifics of the business venture.

Some of the current funds which are supported by the DTI include:

- Incubation Support Programme (ISP)
- Isivande Women's Fund (IWF)
- The Black Business Supplier Development Programme (BBSDP)
- Emerging Black Filmmakers Fund

Other funds, supported by the IDC:

- Support Programme for Industrial Innovation (Funding up to prototype stage)
- Technology Venture Capital Fund (Funding for commercialisation of new technologies)
- IDC Venture Capital Fund (The fund focuses on global unique SA owned IP across sector)
- IDC ICT SBU (The focus of the IDC SBU has been on the supply side in the main and there is a need to complement this by funding the demand side - content and applications)
- Technology and Human Resources Programme (R&D programme of the DTI managed by the National Research Foundation).

Although there are several inventive schemes in place, none are tailored specifically to the needs of the ICT sector, besides the filmmaker and video funds which targets the content sector. This needs to be addressed, especially as according to SA Connect the realisation of the broadband programme will require multiple development and incentive programmes. The policy provides for local content and applications development funds and dedicated ICT entrepreneurship and R&D funds.

R124. RING FENCING FUNDS FOR THE ICT SECTOR

The Panel recommends that:

- a) Current support programmes should remain in place.
- b) However the DTPS must entrench a closer working relationship with the DTI, IDC, and other bodies to ensure that funds within current programmes are ring-fenced for the further development of the ICT sector.

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- c) This must not preclude the development of new, and unique funding programmes which are targeted at specific sub-sectors of the ICT industry.

6.5.5 Funding models for entrepreneurs and start-ups

South Africa has large and growing youth population. This group however faces particular challenges in gaining employment in the South African labour market. Over the period 2008–2014, although their level of education attainment improved, their labour market prospects deteriorated (StatsSA, 2014)⁶⁶. Given current trends this population sector is best poised to contribute to demand and uptake of ICT products and services. This is not peculiar to South Africa, as it is a worldwide trend that the growth of the knowledge economy has been youth driven.

One of the challenges facing newcomers and young entrepreneurs in the ICT sector is the lack of funding instruments. Internationally, projects in this industry have typically been funded by venture capitalists – in particular angel investors.

R125. FUNDING ICT ENTREPRENEURS AND START-UPS

The Panel notes that:

- The following have been identified as challenges facing ICT start-ups:
 - Funding institutions appear not to have a detailed understanding of the ICT sector, beyond that of infrastructure development investment, and hardware manufacturing.
 - South Africa is generally short of greenfield funding.
 - Collateral requirements are prohibitive to starting up micro and small businesses.
- Thus alternative modes of supporting and nurturing ICT entrepreneurs, especially the youth must be considered to mitigate the above challenges.

The Panel therefore recommends the following strategies be pursued by the DTSP in collaboration with the DTI and other relevant Government departments:

a) Development of an angels investment programme for the ICT sector

The DTI should provide oversight for the establishment of such a platform, which would provide for both online and face to face investment networking sessions. Such networks could have a physical presence in the ICT innovation hubs proposed in the ICT RDI sub-section below. Current angel networks could advise on the establishment of the platform. The DTP must be mandated to initiate the programme with the DTI.

b) Investigate the feasibility of tax breaks for new ICT SMMEs

Section 18A of the Income Tax Act provides for tax deductions for donations to specific approved Public Benefit Activities. An assessment needs to be made by the DTSP in tandem with the DTI and SARS to determine how companies investing in new SMME ICT projects could benefit, if at all.

⁶⁶ Statistic South Africa (StatsSA). 2014. National and provincial labour market: Youth, Q1: 2008–Q1: 2014, August 2014.

c) **Establish ICT financing guarantee schemes**

A special financing guarantee scheme with a focus on ICT projects could be established. A different approach from that of current guarantee schemes would need to be developed.⁶⁷ The principles of such a scheme must develop different risk and viability tests more suitable to ICT initiatives, than those which are currently applied.

d) **Government to be key client for start-up ICT initiatives**

Government as one of the main buyers of ICT goods and services is in a key position to support innovation in the ICT sector. Treasury needs to assess the extent to which current procurement frameworks could be adapted to enable government to become a key client for ICT entrepreneurial initiatives. In parallel, ICT entrepreneurs need to be encouraged, through the proposed network of ICT innovation hubs (see ICT-RDI sub-section below), to develop solutions which meet government's service delivery objectives.⁶⁸

e) **Expand the extent of Government ICT and related services procurement from SMMEs**

Thresholds must be established for a set-aside of procurement expenditure in this regard, but within a framework of established procedures for expenditure in the PFMA and the MFMA.

6.6 ICT Research, Development and Innovation (RDI)

SA Connect notes that while South Africa's overall R&D spend has moved towards 1% of GDP, this is still significantly below what is required for economic competitiveness.⁶⁹ South Africa spends close to 10% of GDP on ICT goods and services most of which are imported. The development of a national broadband infrastructure will further create unprecedented demand for ICT goods and services.⁷⁰

South Africa could position itself to leverage the potential market growth so that the country becomes more internationally relevant, as well as becoming a key supplier to the African continent. To achieve this, South Africa must significantly increase and sustain levels of public and private investment in ICT-RDI and strive to:

- Develop a healthy innovation culture, such that research results flow unencumbered to government and industry to achieve impact in and for society;
- Ensure that industry engages robustly with research communities, so as to ensure rapid uptake and promotion of research results and indigenous innovation;

⁶⁷ Guarantee schemes take the same risk as those of funders and therefore would face the same challenge when evaluating funding proposals. Guarantee schemes are usually offered to commercial banks by government agencies and require that the commercial bank goes through their own recovery process before claiming from the Guarantee Scheme. For this reason the scheme may not be attractive to commercial banks/other funders.

⁶⁸ The City of Johannesburg's innovative #Hack.Jozi Challenge project serves as a good example. Residents have been challenged to help solve the city's problems using technology, with R5m in prize money set aside for the programme to fund entrepreneur's start-up businesses if their ideas are selected. The #Hack.Jozi Challenge is an initiative between the city and the Johannesburg Centre for Software Engineering at Wits University.

⁶⁹ DTPS, South Africa Connect, pg 25.

⁷⁰ For example, PricewaterhouseCoopers' Entertainment and media outlook (2014–2018) indicates that South Africa's entertainment and media market will see a compound annual growth rate of 10.2% to 2018, with Internet spend the largest and fastest growing segment.

- Develop an advanced ICT infrastructure which provides requisite quality of connectivity to supports RDI initiatives within our borders and with the continent and the world;
- Develop content and applications addressing local needs and creating export opportunities.

6.6.1 Coordinated R&D agenda: ICT RDI Investment and Planning Advisory Council

The Department of Science and Technology has developed an ICT Research, Development and Innovation Roadmap to support the country's strategic objective of increasing the impact of ICTs on society and developing the economy. The Roadmap⁷¹ approved by Cabinet in April 2013, presents a vision that will enable South Africa to become a significant player in the global ICT RDI arena. It provides a coherent framework and plan for South Africa's future investment and planning in ICT research, development and innovation and provides a single point of coordination of RDI activities through the envisaged Office of Digital Advantage.

However, while the ICT roadmap provides a clear future framework, the RDI ecosystem is currently weak. The DTI's IPAP (2014-2017) expresses concern about the inadequate levels of coherence and coordination in prioritisation and agenda-setting for science and technology innovation by, and between, government, business, academia and civil society.⁷²

R126. ICT RDI INVESTMENT AND PLANNING ADVISORY COUNCIL

The Panel has considered submissions which have urged that government improve coordination of national, provincial, NGO and private sector led research facilities, incubators and accelerators. The Panel recommends that:

- a) An ICT RDI Investment and Planning Advisory Council including senior officials from DST, the DTI and DTPS, as well as industry and research institutions (Universities and Science Councils) and civil society representatives, must be established to support the Office of Digital Advantage, which is provided for in the ICT RDI Roadmap.
- b) The council must establish a working relationship with the SA Broadband council and any other relevant structure.
- c) The Council must continuously evaluate priority areas, promote and monitor policies to support RDI growth in the ICT sector.
- d) The council should ideally be co-chaired by the Director Generals of the DST and DTPS, or their nominated representatives, and it should be supported by Technical Working Groups made up of senior officials from the Departments and science and industry experts.

6.6.2 Priority Areas for ICT RDI Intervention

The ICT RDI Roadmap identifies key market opportunities and priority areas of focus. These market opportunities were identified following a rigorous consultative process and desktop research and followed a three-pronged methodology based on ICT trends, the current ICT RDI landscape and a capability map in South Africa. Out of this process, 27 market opportunities were identified and grouped into six clusters based on their affinity and strategic alignment.

⁷¹ Department of Science and Technology, "ICT RDI Roadmap, Towards Digital Advantage: Roadmapping South Africa's ICT RDI Future", 2013

⁷² DTI, Industrial Policy Action Plan (IPAP 2014/15 – 2016/17), pg 62.

R127. AREAS OF PRIORITY FOR ICT RESEARCH, DEVELOPMENT AND INNOVATION

The Panel is of the view that in order to ensure sustained economic growth, South Africa will have to focus its RDI efforts, which in turn will create value chains in the market over the medium to long term. This strategy has reaped benefits in other parts of the world.

The Panel therefore recommends that the following priority areas and their associated market opportunities be supported, and that the ICT-RDI advisory council (as recommended above) be tasked to identify specific foci within the priority areas. Further more than one of the initial tasks to must include a mapping of key innovation stakeholders within each of the areas:

- a) **Broadband Infrastructure and Services** : Future Wireless Technologies, Broadband Service Infrastructure
- b) **Development** : E-inclusion, ICT for socio-economic development, Agriculture
- c) **Sustainability and the Environment**: Green and ICT, Global Change, Geo-spatial Applications
- d) **Industry Applications**: Infrastructure, Mining, Manufacturing, Future Internet Applications, Content Creation and Delivery, Supply Chain Optimisation, Asset Management
- e) **Service Economy**: M-Health, E-services, Education, Business Model Innovation, Payment Solutions, Outsourced SA Capability, Systems Integration, Content and Services Localisation, Mobile Enablement, Trust and Security
- f) **Grand Science**: Astronomy, Bio-Medical Sciences

6.6.3 Enabling critical mass for RDI in prioritised areas

According to the DST, investment in advanced human capital to date has led to 52 PhD and Masters degree graduates, providing the research leadership required for knowledge creation as well as the academic cohort that will teach the next generation of ICT engineers, scientists and technologists.⁷³

R128. DEVELOPING HUMAN CAPITAL TO SUPPORT RDI FOCUS AREAS

The Panel notes that the National Broadband Policy calls for investments in the development of critical mass, in ICT RDI capabilities, in innovation support measures and in advanced human capital development.

The Panel further believes that over the next era greater impetus is required to develop human capital, and a more focused strategy is called for.

It therefore recommends that:

- a) Instruments such as the National Research Foundation's (NRF) South African Research Chair Initiative, or alternatively other similar NRF funding instruments, should be leveraged to establish ICT RDI centres in the Higher Education sector. There should be at least one centre for each of the recommended priority areas. To this end, an ICT RDI advisory council (should it be established) in conjunction with the NRF, could consider the establishment of Research Chairs and associated RDI centres, to drive prioritised components of the national RDI agenda.

- b) Furthermore that the centres are closely aligned with Innovation Centres and Hubs so that there is a seamless trajectory between research output and innovation.
- c) Private sector investment is required to drive this initiative. Consideration must be given to the feasibility of making it a requirement for OEMs in the broad ICT sector and other components of the ICT Industry to co-fund RDI human capital development, through the establishment of endowed research chairs, and improved incentives for entry into post-graduate study, in partnership with the NRF.

6.6.4 RDI Innovation Funding

Government has currently established a number of instruments and policy frameworks that support generic industry development and innovation, through which most ICT innovations and start-up SMMEs are supported. These instruments include the DTI's SPII, THRIP, NIPF and BBBEE Equity Equivalent policies; the DST's Industry Innovation Partnerships Fund, the Technology Innovation Agency as a funding agency for commercialisation of tech products and services, the DST's Centre of Competence (CoCs) and Centres of Excellence (CoEs), etc. These however are generally uncoordinated.

R129. CREATING A SUSTAINABLE FLOW OF RDI FUNDING

The Panel notes that

- There was a general agreement from stakeholders during the policy review on the need to increase investment in ICT related RDI.
- Investment support programmes must recognise the nature of the software and services markets and apply appropriate criteria, rather than the traditional industrial environment rules which do not apply.
- The IPAP (2014/16 – 2016/17) notes that the South African list of incentives (policy instruments) is relatively short in comparison with those in other countries.
- Current incentives are limited as they are horizontal (apply to all disciplines, technologies, sectors etc.) and they have relatively limited budgets.

The Panel considered whether a single fund is needed to improve funding coordination. However having considered submissions in this regard, recommends that this is not necessary. **However the following strategies should be pursued to create a sustainable flow of RDI funding:**

- a) All companies in the private sector must contribute a set percentage of annual revenue into RDI activity.
- b) Such investment should be tax deductible and the IP must be retained by investor.
- c) Further that the development of tax incentives must comprise clear criteria and guidelines, and broad consultation to ensure it really is an incentive.
- d) The DTPS must be mandated to investigate the implementation of this, in conjunction with SARS, the DST and the DTI.

R130. ENCOURAGING THE USE OF LOCAL ICT PRODUCTS

The Panel notes that:

- Even though international companies might start to recognise South Africa as a business process off-shore destination for software development, Government and South African corporations are still investing in internationally produced software.
- Valuable software royalties and licensing fees are not therefore accrued to the local economy.⁷⁴
- There is moreover little incentive for local software developers to use their talents and skills locally.

The Panel recommends that:

- a) Consideration be given to enforcing a preferential procurement policy that encourages enterprises to use locally developed ICT products. This is a key driver to open up market opportunities for local software development entrepreneurs and companies.
- b) The DTPS must undertake to liaise with the DTI and other relevant government departments to assess the feasibility of this recommendation.

R131. INCENTIVES FOR UNIVERSITY RESEARCH TO BRIDGE THE INNOVATION GAP

The Panel notes that:

- The Department of Higher Education and Training incentivises university researchers to publish in scientific journals, for which each university receives a subsidy, primarily intended to support further research and development at the institution.
- These incentives do not include provisions to ensure the visibility and uptake of their research.

The Panel recommends that:

- a) DHET must, together with the DTI and the DST, develop an incentive scheme to encourage university researchers to go beyond the R&D phase so as to realise a higher nett innovation output from the higher education sector.

6.6.5 Infrastructure to catalyse innovation: Digital Technology Hubs

Digital technology underpins the knowledge economy and will dominate all aspects of life in the 21st Century – from education to food production; from health to trade; from mining to logistics.⁷⁵ For South Africa and Africa to truly engage in the knowledge economy it will need to *create* digital technology, not simply use it. Africans will have to embrace Digital Technology to educate and empower over a billion of its citizens. South Africa has long been at the forefront of developing innovative digital technology (e.g. pre-payment on cell phones is a South African innovation).

⁷⁴ Andric, “Wanted: software developers for SA”, Achiever Magazine, Advanced Education and Training Industry for South Africa, 01 September 2014, <http://www.achieveronline.co.za/articles/ict-11885.html>

⁷⁵ Joburg Centre for Software Engineering, Annual Report 2013-2014, pg 3

Almost every city in the world now has a district, road, building, neighbourhood or precinct where people gather to learn, work and innovate. London has Silicon Roundabout in Shoreditch, Nairobi has its iHub and Boston has Kendall Square. Yet, Johannesburg, Africa's most important economic centre, does not have such an area.

R132. DIGITAL TECHNOLOGY HUBS

The Panel notes that:

- Just below 50% of youth are unemployed and six hundred thousand of these are graduates of tertiary education institutions.
- There is a critical need to harness and channel this talent and integrate the unemployed into the mainstream economy.
- There is thus an urgent need to provide platforms for youth to experiment and innovate in a manner that can also generate opportunities for mentoring, teamwork and the incubation of new ideas into realistic and sustainable employment.
- Digital technology includes software, hardware, the Internet and digital content and provides an ideal platform for innovation and skills development that will create employment and channel the potential of Africa's youth. The development of "Digital Technology Hubs" provides the enabling environment to harness this potential.

The Panel supports the view that a demand-driven approach to innovation (and the development and use of intellectual property), and by implication, SMME development is required. **The Panel recommends that further exploration of the Digital Technology Hub concept be undertaken with immediate effect. The following provides a broad overview of the recommended approach:**

- a) Within a period of five years at least one technology hub should be developed in each of the country's major cities, where these do not currently exist, focusing on inner cities and townships.
- b) These hubs will serve as zones in which ICT entrepreneurs are incubated, formal RDI entities (universities and research institutes) and industry partners could co-exist. Governments will be required to support the new "life" in the city with efficient security, transport, maintenance and communications services, geared to a 24/7/365 culture.
- c) The framework for the hubs must include opportunities for partnerships between landlords, municipalities and service providers to repurpose commercial and industrial premises, through grants and incentives that ease access to the capital funding required. This requires government to work together, viz the DTI, the DTSP, and National Treasury, to seek budget appropriations for this type of infrastructure investment. The private sector must also contribute towards funding.
- d) The Digital Technology Hubs must be directed, to focus on the priority market areas identified in the ICT RDI Roadmap.
- e) The hubs should be able to operate as a hub and spoke model with community ICT access centres, such as the ICANN centres in the Western Cape, Siyafunda's centres in Gauteng, and other similar centres community ICT currently supported by USAASA.

6.6.6 Grassroots and community-based innovation

According to the National Advisory Council on Innovation (NACI), innovation is

“...the process of transforming an idea generally generated through R&D, into a new or improved service, product, process or approach that relates to the real needs of society and involves scientific, technological, organisational or commercial activities. The key to this definition is the fact that the innovation process is only complete once a defined product, process or system with some tangible benefit has been implemented”.

Innovation occurs both in the formal and informal sectors.⁷⁶ In the formal sector, innovation generally leads to patents, design registration and related forms of IP protection. However there are examples of innovation which have not followed the cycle of formal research and development and which are realised in commercial markets. The ICT applications market is one example, in which innovative ideas have been realised, based just on the power of the Internet to provide reach and access to markets.

R133. CATALYSING GRASSROOTS AND COMMUNITY-BASED INNOVATION

The Panel notes that:

- In the current environment there is very little or non-existent support for innovation in the informal economy in South Africa.
- The imminent growth of ICT infrastructure however could fuel a more fertile environment in which innovation in the informal economy will prosper if a more enabling environment is nurtured.
- Recommendations in previous sub-sections of the Chapter, relating to the creation of Digital Hubs, and for the provision of incentives are framed to support innovation described in this section.

The Panel recommends that grassroots and community-based innovation is supported as follows:

a) Community ICT centres

The DTPS, in conjunction with USAASA (or the evolved Fund Management entity as recommended in this report) and the DTI must investigate how ICT specific innovation in the informal sector could be encouraged. Enabling infrastructure at community level, such as Community IT centres⁷⁷, acting as satellite points to the proposed Digital Technology Hubs must be established. Such centres must facilitate access to finance and market opportunities for innovators. These centres must also be catalysts in improving cohesion between innovators in the formal and informal sectors.

b) Provide for more flexible Intellectual Property protection arrangements

⁷⁶ The International Labour Organization (ILO) first defined the “informal sector” in 1972. It characterized the sector based on seven factors: ease of entry; reliance on indigenous resources; family ownership of enterprises; small scale of operations; labor-intensive and adapted technology; skills acquired outside the formal school system; and unregulated and competitive markets.

⁷⁷ The South African Communications Forum, for example, suggested that the Brazilian LAN Houses concept may be considered. The LAN Houses are in essence community ICT centres, which are managed and owned by urban youth and provide services such as refurbishing, repairing and maintaining of computers.



One of the limitations to formal means of protection in the informal economy is the relevance and appropriateness of the Intellectual Property system. Given that the typical innovator in the informal economy is not always aware about options to protect their Intellectual Property, the DTI, in conjunction with CIPRO therefore needs to assess how innovation in the informal economy may be accommodated. A specific policy framework to support innovators in the informal economy must be developed including measures to reduce typical high costs associated with IP protection. This policy could apply to all innovations and sectors.

c) Funding instruments and greater awareness of funding opportunities

- i. There are currently numerous supporting instruments for entrepreneurs. However not all of these may be appropriate for ICT entrepreneurs, especially in the applications and software development area. An assessment must be made of current funding instruments, and if necessary be adapted such that it is able to support RDI investment in low-income-relevant technologies and software application development. The mobile applications market has been identified as a particular area for growth and opportunity. *(See also Section 6.5.5 Funding ICT Entrepreneurs and Start-Ups).*
- ii. The development of a funding plan must include a programme to ensure awareness of funding opportunities.
- iii. In addition an assessment must be made of how funding could be ring-fenced in the proposed ICT-Development Fund (or the USAF in the interim).

6.7 Skills Development

Given the anticipated escalation of infrastructure rollout and in consideration of the huge monetary investment, all stakeholders will need to work together to ensure:

- Widespread basic technology skills to take advantage of universal access to broadband and increase demand for ICT products and services;
- Public service skills to ensure public servants in all three tiers of government are adequately skilled to drive more efficient delivery of services using Government-to-Business, Government-to-Government, Government-to-Citizen and Citizen-to-Government modes;
- A diverse skills base across professions, from both user and ICT developer perspectives, which catalyses the growth of ICT-enabled industries;
- A sufficient supply of skilled professionals, researchers and innovators to build the ICT products and services industry, so that we are not dependent on the import market; and
- Skills development to ensure the anticipated infrastructure expansion is built, serviced and maintained by a majority South African workforce.

All of the above are emphasised in SA Connect⁷⁸ which provides for interventions within the basic education and post-school sectors, in government and adult e-literacy as well as youth development and sectoral programmes. In terms of skills to provide and maintain infrastructure, the Minister of Higher Education and Training has been mandated to address the SIPs skills dimension, under the umbrella of the PICC.

⁷⁸ South Africa Connect: pg. 58-59.

6.7.1 Role of iKamva National e-Skills Institute (iNeSI)

Skills development for an ICT-enabled world under the mandate of the DTPS was carried out by the e-Skills Institute, the National Electronic Media Institute of South Africa (NEMISA) and the Institute for Satellite and Software Applications. In February 2014, these institutions were merged to form the iKamva National e-Skills Institute (iNeSI). The underlying iKamva model was developed specifically for South Africa following a six year international investigation.

The Institute's role is to:

- Act as a national catalyst and change agent for the development of e-skills.
- Play a leading and advocacy role in developing users, consumers and citizens within the globally evolving information and knowledge-based environment that is increasingly dominated and affected by modern ICT devices and applications.
- Through a distributed model i.e. physical presence in each of the nine provinces allow for government, business, education, organized labour, civil society and organized labour to better position South Africa for a Knowledge Economy.
- Collaborate with key stakeholders i.e. government, business, education, organised labour, civil society and global development partners for impact.
- Broaden its scope to address all e-skills interventions (i.e. teaching and learning, research, innovation, monitoring and evaluation, and aggregation).

The National Electronic Media Institute of South Africa (NEMISA) came into being as an institution of education and learning, specialising in teaching the production and technical skills applicable to the TV, radio and broadcasting industries. Formed as part of a government initiative in 1998, its fundamental purpose is to train previously disadvantaged individuals, particularly women, and equip them with the skills necessary to play significant roles in the broadcasting environment.

R134. ROLE OF IKAMVA NATIONAL E-SKILLS INSTITUTE (iNeSI)

The Panel has considered various submissions, and recommends the following in respect of a forward looking role of the iNeSI:

- a) The iNeSI must continue to focus on its current five components, viz. Research, e-astuteness multi-stakeholder collaboration, monitoring and evaluation.
- b) The DTPS and the iNeSI must investigate the feasibility of a separate institute with a focus on *implementation* of training programmes together with DHET.
- c) iNeSI must work proactively, with other arms of government if necessary to garner support from the private sector for the development of further co-labs.
- d) iNeSI must foster a working relationship with the SETA's, in particular the MICT Seta, to ensure synergies in their respective mandates.
- e) iNeSI must proactively research and develop programmes which focus specifically on e-skills for rural women.

With regards to the specific areas of iNeSI, which were previously in the purview of NEMISA it is recommended that:

- f) A continued and renewed focus on audio and audio-visual content development training be prioritised. The DTPS should coordinate with the Department of Communications in this regard.
- g)
- h) Further, that the DTPS and DOC must assess whether the training functions of the old NEMISA, which are currently managed by the iNeSI, would be better placed by being merged into a training institute within the TVET sector, or whether there are sufficient synergies with the iNeSI, post the merger.

6.7.2 Co-ordination of the e-skills agenda

Over the last decade South Africa has invested a great deal of money in ICT education and training via business, government, education and civil society. Currently, the provision of e-skills is delivered by a range of initiatives across education, government, business and civil society and which is funded by private service provider models, government support contributory schemes, and donor agency supported free schemes.

R135. NATIONAL E-SKILLS COORDINATING COUNCIL

The Panel notes that the following issues were raised during the policy review:

- The fragmented structures related to the skills sector and the need for coordination and that there is currently no coordination of data and skills gaps.
- The large number of private sector training interventions, whether through vendor certification programmes or through independent training providers.
- The need for improved coordination, aggregation and integration as well as the provision of a framework for the alignment of effort to South Africa's national e-skills strategies.
- Improved collaborative and coordinated partnerships between government skills development initiatives, universities and other tertiary institutions, and the ICT industry.

It is recommended that the establishment of a National e-skills Coordinating Council under the auspices of the iNeSI, Broadband Council, DTPS, DHET, DBE, DOC be established to:

- a) Monitor the national e-skills gap.
- b) Co-ordinate and facilitate opportunities for e-skills within the various current skills plans and strategies, including the current National Skills Development Strategy, the Skills Accord and the DHET's Green Paper for Post School Education and Training.
- c) Advance synergies and promote alignment in the planning between the different organs responsible for skills in the ICT sector, including the MICT Seta, and other Setas, TVET's, industry, universities, colleges, and schools;
- d) Develop and maintain an Information and Knowledge Management System (IKMS) in respect of labour market data in collaboration with the MICT SETA;
- e) Address the disconnect between the supply side skills (through universities and FET colleges) and the demand side skills, where the skills needed for economic growth are not supplied by the universities and FET colleges;
- f) Monitor and report on the various e-skills initiatives;
- g) Establish integrated database of information on skills training, collating data from relevant government departments, agencies, Statistics SA, etc.;

- h) Develop policy to ensure effective coordination between e-skills initiatives and the standards regulators such as SAQA (South African Qualifications Authority) to preserve standards and control;
- i) DTSPS must ensure that relevant ICT curriculum at all levels of the educational system are prioritised for alignment purposes

6.7.2.1 Information and Knowledge Management System (IKMS) for consolidated national e-skills data

R136. E-SKILLS INFORMATION AND KNOWLEDGE MANAGEMENT SYSTEM

The Panel notes that there is currently a lack of credible labour market data in the sector and incoherent research agenda and labour market information on ICT skills.

It is recommended that:

- a) The MICT SETA in partnership with the iNeSI and relevant government departments develop and maintain an Information and Knowledge Management System (IKMS) in respect of labour market data.
- b) This data bank should also be made accessible for research purposes.
- c) A skills research unit must be established to assist in this and to collect all relevant data, carry out additional research and produce frequent reports highlighting skills needs, skills trends and development opportunities.
- d) The data must be used to inform the Education Departments, SETAs, and other training organs of skills needs, identify training and education interventions for support and inform the policy on immigration skills.
- e) The data must further be used to conduct targeted research to understand the skills dynamics and characteristics of the informal economy and the SMME sector to inform Government's programmes for SMME support.
- The Skills Research Unit will also participate in the proposed government National e-Skills Council, should such a council be established in the future.

6.7.3 National Digital literacy to support e-readiness

As noted in other Chapters there is a need for a holistic digital literacy or e-astuteness programme.

R137. NATIONAL E-LITERACY PROGRAMME

The Panel notes that

- SA Connect points out that there is now considerable evidence to demonstrate that inequality of access and use of ICTs and therefore the ability to deploy their full potential – is rooted in the unequal capabilities of individuals and groups, such as the poor, particularly poor women, those living in rural areas, persons with disabilities, and the elderly.
- The policy states that as ICTs become more complex, the ability to optimise their use correlates strongly with education and income.

- Those marginalised from education and therefore from employment and income are most likely to be marginalised from access to the type of communications services required to participate meaningfully in a modern economy and society.

The Panel supports the proposal in the SA Connect broadband policy that the DTPS via iNeSI coordinate a national e-literacy programme with the following allocation of responsibilities to other government departments:

- Department of Basic Education - integration of ICT into school curriculum.
- Department of Higher Education - integration of ICT into post matric curricula.
- DPSA to integrate ICT skills development as an administrative and delivery tool in all government departments
- Department of Labour and SETAs to focus on adult e-literacy, youth development and sectoral programmes.

6.7.4 Improving access to the world of work

According to the MICT SETA graduates' work-readiness is currently being questioned. Although internship programmes are recognised as an effective way of introducing graduates to the world of work, the challenge is that the exposure may not be enough to ensure improved knowledge and competence. Moreover, some types of work-place exposure do not culminate into genuine learning opportunities. Furthermore, there is a perceived mismatch between what is provided in institutions of learning and what is actually needed in the workplace.

R138. IMPROVING THE SCOPE OF ICT INTERNSHIP PROGRAMMES

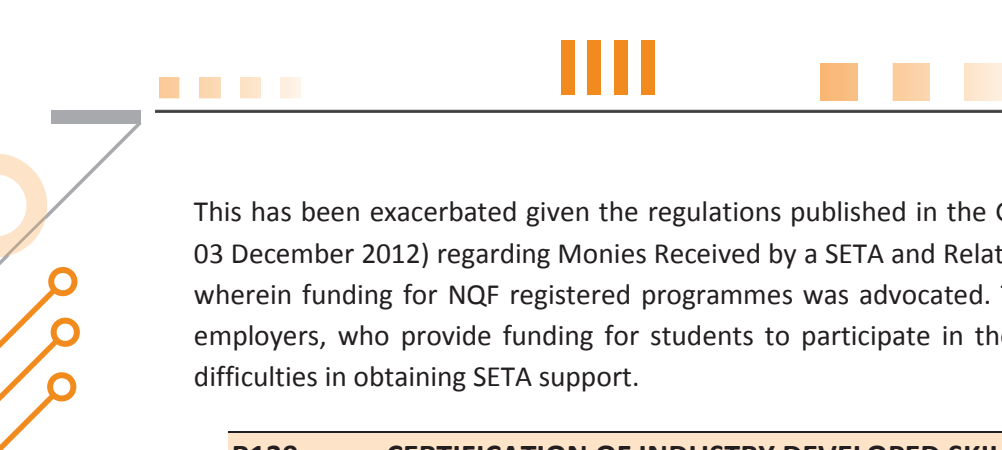
The Panel notes that improved relationships need to be built between employers (including government) and education and training institutions in order to expand the quality of work integrated learning, thus turning workplaces into more meaningful training spaces.

The Panel recommends that:

- a) The scope of internship programmes and industry exposure or workplace learning programmes is increased, and that realistic incentives are provided to make it attractive for industry partners to become involved in these programmes.
- b) An improved system of coordination between the private sector, the MICT SETA, and higher education (including the TVETs) to achieve this goal.
- c) The MICT SETA is directed to assess the level of stipends and rules on participation.
- d) A more extensive scholarship programmes with business to be investigated and implemented.

6.7.5 ICT Vendor skills programmes

There are numerous vendor courses and programmes designed to skill technicians and engineer who work on specific products for specific companies and which are not transferable outside of a specific employer. However, despite being widely recognised by industry and internationally, skills programmes offered by ICT Vendors are generally not accepted as qualifications in South Africa as most of them are not registered on the NQF.



This has been exacerbated given the regulations published in the Government Gazette (No. 35940, 03 December 2012) regarding Monies Received by a SETA and Related Matters by the DHET Minister wherein funding for NQF registered programmes was advocated. This causes a major problem for employers, who provide funding for students to participate in these programmes but experience difficulties in obtaining SETA support.

R139. CERTIFICATION OF INDUSTRY DEVELOPED SKILLS PROGRAMMES

The Panel notes submissions from stakeholders that programmes offered developed by industry including ICT Vendors are generally not accepted as qualifications, and that this is a problem which needs to be addressed.

It is recommended that:

- a) Certification of industry specific courses must be put in place, and that the MICT SETA be directed to develop related unit standards.
- b) Further that the DTPS reports on this issue, and suggested solutions with the DHET.

6.8 Electronics Manufacturing

Developing a vibrant and sustainable electronics manufacturing industry in South Africa is an important aspect of the National Development Plan (NDP). As outlined in the NDP, South Africa must develop from an economy based on extraction of natural resources to one in which economic value is created from the manufacturing of goods for both the domestic and export markets. South Africa needs to move from being a consumer of other countries' finished goods to being a producer.⁷⁹

According to the DTI:⁸⁰

- Private investors have built capacity and capability to produce electronic products, with the support of both the DTI and the IDC. This has been in the form of both electronics and contract manufacturing facilities that produce products such as set-top boxes (already designated for local procurement), electrical and telecoms cables (designated), televisions (rebate system), residential electricity meters (designated), electromagnetic systems, personal computers and laptop assembly.
- Domestic manufacturers have demonstrated capability to support government initiatives such as digital broadcasting migration, broadband roll-out, e-learning platforms and the state-led electrification programme.

Current plans to increase broadband connectivity, the introduction of digital terrestrial television and the recovery in the global semi-conductor industry are opportunities for growth in the electronics sector. Local demand, coupled with the prospect of export into the African continent, provide a formidable case for continued policy interventions to catalyse growth.

⁷⁹ SACF. 2014. Position paper on STB controls

⁸⁰ Ibid (DTI, 2014)

R140. PRIORITIES AREAS OF GROWTH IN THE ELECTRONICS MANUFACTURING SECTOR

The Panel considered whether the following areas of growth are realistic and aligned to economic development plans of South Africa:

- Access control systems and security equipment;
- Systems and software development in the banking and financial services sector;
- Silicone processing for fibre optics;
- Integrated circuits;
- Solar cells;
- Electronic security devices and associated services, as well as software and peripherals.
- Set top boxes;
- Low cost tablets and mobile phones.

The Panel recommends that priority areas of growth in the electronics manufacturing sector must be informed by a proper market analysis which must be jointly coordinated by the DTPS and DTI.

6.8.1 Facilitating the growth of the local industry

Manufacturing is a capital intensive business. Mass volume products are required to sustain the industry. Lessons from Brazil, China and the US have demonstrated the importance of a sizeable domestic market if the local electronic industry is to be sustainable. Many industry players have found it difficult to penetrate foreign markets due to protectionist industrial policies. Various measures to facilitate growth have been suggested including:

- Bringing together role players (beyond SITA and GITOC) to support the manufacturing of low cost devices such as tablets and smartphones as well as mobile-cloud platforms that are relevant to local conditions (affordable, rugged and perhaps running an Open Source Operating systems) which could be sold across Africa and other developing markets;
- Supporting and expanding a national electronic manufacturing base;
- Using the aggregation of public sector demand to create economies of scale for the production and purchase of locally manufactured devices.

6.8.1.1 The Industrial Policy Action Plan (IPAP) and the declining manufacturing sector

In past years, the South African Electronics Manufacturing Industry has been shrinking due to pressure from imports of cheaply made and, in some cases, dumped electronic goods. This has resulted in a loss of South African jobs, the closing of assembly lines and production plants.⁸¹

R141. HARNESSING THE INDUSTRIAL POLICY ACTION PLAN (IPAP)

The Panel notes that:

- The small domestic market and low levels of international market presence have resulted in a reduction in South Africa's manufacturing capacity in this industry.

⁸¹ SACF. 2014. Position paper on STB controls

- South Africa's major electronics industries are predominantly centred in Gauteng, the Western Cape and KwaZulu-Natal.
- The majority of ICT products used in the country are imported from abroad. There is therefore a need to rekindle local manufacturing of these goods.

The Panel recommends that:

- a) IPAP be utilised to address the decline in this sector.
- b) It is further recommended that the DTIS table the following recommendations to the DTI:
 - i. The electronics industry is identified in the Industrial Policy Action Plan (IPAP) and the New Growth Path as one of the areas for employment creation and transforming the structure of the South African economy to prioritise industrialisation and address problems relating to balance of payment and trade.
 - ii. It would be beneficial for government, through the DTI to consider an industrial policy action plan for the electronics manufacturing industry similar to the Automotive Production Development Programme (APDP).
 - iii. To consider revising tariffs for the electronics industry and exploring incentives to attract both foreign and local investment in electronics manufacturing and diversification.

6.8.1.2 Mitigating competition from imports through local procurement via the Preferential Procurement Policy Framework Act (PPPFA)

Public procurement is a strategic instrument widely deployed by developed and developing countries to enhance and smooth out certainty of demand over the years; promote competitive industrial capabilities with high employment and growth multipliers; diversify the economy towards more employment-intensive and value-adding activities and ensure value for money for the fiscus and society. Public procurement is one of the key industrial levers in the IPAP.

The revised Preferential Procurement Policy Framework Act (PPPFA), which came into effect on the December 7, 2011, empowers the Minister of Trade and Industry to designate industries, sectors and sub-sectors for local procurement at specified levels of local content. The designation policy instrument is one of a suite of policy levers designed to increase support for domestic manufacturing. Currently the set top box sector is designated with a 30% minimum local content threshold and the minimum thresholds for local production of DTT Antennas and Satellite DTH Dish Antennas have been set at 100%.

R142. PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT (PPPFA)

The Panel notes:

- The benefits of the Preferential Procurement Policy Framework Act (PPPFA) to designate industries, sectors and sub-sectors for local procurement at specified levels of local content.
- There are arguments that while South Africa may have an opportunity to support local producers of ICT hardware through mandating local procurement, the reality of modern day ICT production chains complicates this view.
- That hardware is manufactured in countries that are the most cost effective, and South Africa is not yet competitive enough that ICT multinationals will manufacture locally. This

indicates a significant premium will be paid in the event of immediate and forced localisation without first addressing the broader cost pressures on industry.

The Panel recommends that the DTPS tables the following recommendations to the DTI:

- a) That electronics goods must be specified in the revised preferential procurement framework
- b) That further sectors in the electronics manufacturing industry could be investigated with a view to designate them within the ambit of the PPPFA such that this would serve to (i) incentivise local manufacturers to invest further and expand manufacturing capabilities; and (ii) have the effect of improving capacity which will lead to greater ability to export electronics goods.
- c) That consideration be given to how parastatals could enhance the development and contribution of the electronic industry to the South African economy, by sourcing a certain portion of their inputs locally. This is in line with IPAP 2 and the National Industrial Participation Programme (NIPP).
- d) That a mechanism be developed to monitor the implementation of PPPFA in the ICT sector and to ensure compliance where there is none.

6.8.1.3 Quality and availability of skills

R143. SKILLS DEVELOPMENT FOR THE ELECTRONICS MANUFACTURING SECTOR

The Panel notes:

- The general drive for maths and science education does not guarantee the growth in the number of individuals studying electronics related subjects.
- There is thus a need to increase intake of learners studying electronics into HETs and TVETs. There are also gaps in current curricula relative to industry needs.

The Panel recommends that the following strategies be incorporated within the broad National e-Skills framework:

- a) A “Careers in electronics” campaign be instituted, by the relevant manufacturing association, working closely with the DTPS, to jointly procure special funds via both industry and the MICT Seta. A closer relationship between industry and the education sector is required to foster an effective campaign, which may include:
 - i. Identification of secondary schools at which electronics study could be prioritised.
 - ii. An assessment of the extent to which electronics prevails in the current curriculum, and how this may be improved.
 - iii. Consideration of annual fairs, exhibitions, and competitions, to attract high school learners to the subject.
 - iv. The industry and the MICT SETA could work together to bolster the number of bursaries on offer for studies in electronics at tertiary level.
- b) School maths and university electronics curricula be aligned in partnership with industry.
- c) Electronics manufacturing in learnership programmes at SETAs be prioritised.
- d) A mentorship programme in the private sector to be created which enables knowledge transfer, and must be viewed as a short term solution which requires the buy-in of the current incumbents in the industry.

6.8.1.4 Special Economic Zones (SEZ)

The Special Economic Zones (SEZ) Act⁸² provides for the designation, promotion, development, operation and management of Special Economic Zones. Among other objectives, the Act provides for the establishment of a SEZ Fund, and a SEZ Advisory board. The SEZ is an economic development tool to promote national economic growth and export by using support measures in order to attract targeted foreign and domestic investments and technology. Other countries which have demonstrated competitiveness in electronics manufacturing and software development, such as Singapore, India, and Philippines, have started special economic zones.

R144. SPECIAL ECONOMIC ZONES (SEZ)

The Panel notes that there is no SEZ focused on current strengths, as well as growth niches in the electronics manufacturing industry, although there are examples of electronics manufacturing being accommodated in current SEZ's such as in KwaZulu Natal.

The Panel considered whether it would be necessary to establishment niche electronics manufacturing SEZ'S and recommends that:

- a) SEZs should be regional specific rather than sector specific, and that further exploration is needed to determine the extent to which electronics manufacturing are catered for in either current or future SEZs.
- b) The creation of SEZs which incorporate electronics manufacturing must strengthen the SMME sector, rather than disadvantage it.
- c) Consideration be given to the market growth areas identified in the ICT Roadmap in relation to SEZs.

6.8.2 Growth into African and Global Markets

ICT goods exports are highly concentrated. The top five exporters – China, the United States, Hong Kong (China), Japan and Singapore – accounted for over half the world's exports of such goods in 2008, and the top 10 for more than 75%. All developing economies (except Mexico), included among the top 20 exporters are in Asia. Mexico is exploiting competitive advantage of proximity to the Latin American market.

R145. GROWING EXPORTS

The Panel notes that South Africa has not exploited its competitive advantage of proximity to the African market and could do so through manufacturing value added ICT components for that market.

The Panel recommends that:

- a) A national strategy for improving net global exports in the electronics manufacturing sector be developed by the DTI in collaboration with the DTPS.
- b) The strategy must include a focus on:

⁸² Act No. 16 of 2014: Special Economic Zones Act, 2014

- 
- i. How exports into Africa can provide a foundation for a bigger global export market, especially in the BRICS countries.
 - ii. Promotion of technology transfer through forging sustainable partnership between domestic ICT SMMEs and foreign ICT companies.

6.8.3 *Manufacturing Incentive schemes*

R146. INCENTIVISING AND SUPPORTING ELECTRONICS MANUFACTURING

The Panel notes

- While South Africa has introduced various incentive packages to boost investment, only a few are specific to the ICT environment.
- The disadvantages of the current broad incentives are that they have to be competed for against established and capital-intensive industries. They do not apply a budget quota system to ensure that all the sectors can benefit.
- In addition, the number of ICT beneficiaries demonstrates that ICTs are not prioritised⁸³.
- These incentives operate on a first-come first-serve basis, thus benefiting established industries and there is a perceived limited ICT competency.
- Therefore, on its own the ICT industry does not have industry-specific incentives to drive its growth.

The Panel further notes the following issues which were identified during the policy review:

- The application and payment processes of such incentive programmes too slow.
- These programmes are not supportive of the SMME sector.
- Programmes must be improved to bring products closer to market.
- There are low levels of awareness of the programmes

The Panel therefore recommends that:

- a) The Manufacturing Competitiveness Enhancement Programme (MCEP) as one of the key action programmes of the Industrial Policy Action Plan 2014/15 be harnessed to provide enhanced manufacturing support for the electronics manufacturing sector.
- b) That both the Production Incentive (PI) and the Industrial Financing Loan Facilities, which are managed by the DTI and the Industrial Development Corporation (IDC) respectively, be used to create incentives.
- c) That the IDC continues to offer and strengthen the following programmes which are managed by the ICT Business Unit:
 - i. Electrical and Electronic Manufacturing;
 - ii. IT Sector;
 - iii. Broadband sector;
 - iv. Demand Management sector;
 - v. e-Waste; and

⁸³ According to the DTI's 2012/13 Report on Incentive Performance: Selected Projects, only 2 electronics companies, Tellumat and Hi Sense, have benefitted from the MIP scheme.

- vi. Advanced Material sector.
- d) That both the DTI and IDC develop strategies to mitigate the problems in relation to application and payment processes; support of the SMME sector; and the low levels of awareness of the programmes.

6.9 Intellectual Property Regime in South Africa

According to the World Intellectual Property Organisation there are several reasons to promote and protect intellectual property:⁸⁴

- Progress and well-being of humanity rest on its capacity to create and invent new works in the areas of technology and culture.
- The legal protection of new creations encourages the commitment of additional resources for further innovation.
- The promotion and protection of intellectual property spurs economic growth, creates new jobs and industries, and enhances the quality and enjoyment of life.

The intellectual property system helps strike a balance between the interests of innovators and the public interest, providing an environment in which creativity and invention can flourish, for the benefit of all.

R147. STRENGTHENING THE INTELLECTUAL PROPERTY REGIME

The Panel notes the following views expressed during the policy review:

- Concerns about IP issues in the ICT sector included that IP protection may create barriers to entry for SMEs and that the nationality of IP ownership is somehow relevant to the growth of a thriving domestic IT sector.
- IP protection provides much-needed incentives for innovation and creativity by enabling enterprises to recoup their investments in research and development and to fund future innovation.
- An important factor in attracting FDI in the sector is IP protection. Foreign firms are more likely to invest in developing countries that have stable IP regimes.
- That IP is not a barrier but a bridge that enables an innovator to share an innovation with other companies that pass the innovation to their customers.
- That IP issues is not a matter for ICT policy as it is dealt with in other laws and policies.

The Panel is of the view that IP issues are important to the growth of the ICT industry and recommends that the following recommendation be championed by the DTPS with the DTI:

- a) That South Africa can and should encourage domestic innovation and associated IP, but should ensure that it does so in ways that are even-handed and which promotes competition broadly, via tax incentives, investments in scientific research, and the like.
- b) Domestic innovation should be better protected by introducing a creative commons licensing framework

⁸⁴ World Intellectual Property Organisation, "What is Intellectual Property?" http://www.wipo.int/edocs/pubdocs/en/intproperty/450/wipo_pub_450.pdf



R148. UTILITY MODEL SYSTEM TO SUPPORT DOMESTIC INNOVATORS

The Panel notes that:

- The utility model system is an important consideration to promote and protect domestic innovators.
- In the utility model system, IP protection is granted for incremental improvements since it is assumed that the invention might have existed before.
- The utility model system is less costly compared to filing a full patent. It also protects the emerging inventor from costly litigation and contestation of his/her invention on whether it meets the inventive step.

The Panel is of the view that the growth of grassroots innovation (See Section 6.6.6) requires support in respect of IP protection, and therefore recommends that:

- The DTPS propose to the DTI that the utility model system be incorporated within its Intellectual Property Policy Review process.
- The implementation of the utility model system be harnessed to promote and protect domestic innovators.
- Further that an awareness campaign is required, to familiarise grassroots innovators with the utility model. This is a critical element in protecting small and micro innovators given the importance of not disclosing information related to invention before protecting the IP.

7 Institutional Frameworks⁸⁵

7.1 Introduction

The recommendations in this Chapter focuses on the governance and institutional frameworks required to support the policy recommendations presented in the other chapters. A key consideration for the Panel, in respect of institutional arrangements, is the overarching principle of deriving maximum public value from public resources. This is considered essential in determining the relevance of existing entities and how policy reformations may support the strengthening of them.

The Panel has also considered the roles of the different spheres of government, parliament, non-governmental organisations and the private sector in assessing the relevance of the current institutional frameworks. This is in line with South Africa's National Broadband Policy, "South Africa Connect", which states:

- *"It is vital that the institutional constraints on effective regulation are addressed as a matter of urgency";*
- *"Requisite institutional capacity needs to be built, strengthened and, where necessary, streamlined" in the Department, as well as in portfolio organisations and other complementary agencies; and*
- *"State-owned companies should be rationalised to contribute to contribute to national objectives more efficiently and effectively."*⁸⁶

The National Development Plan ("the NDP") also directed that the ICT policy review must address institutional and regulatory weaknesses in order to realise the potential of the sector.⁸⁷ In its Vision 2030, the NDP emphasises that a "capable state" is an essential prerequisite for development, and highlights the challenges in realising this:

*"A capable state does not materialise by decree, nor can it be legislated or created from conference resolutions. It has to be painstakingly built, brick by brick, institution by institution, and sustained and rejuvenated over time. It requires leadership, sound policies, skilled managers and workers, clear lines of accountability, appropriate systems and consistent and fair application of rules."*⁸⁸

The focus of this Chapter is therefore on those institutions which are creatures of legislation and which that are set up by legislation and have some regulatory responsibilities rather than state-owned companies (SOCs). SOCs which are impacted by ICT policy are dealt with in other sections of the Recommendations Report.

⁸⁵ NOTE: The recommendations in this Chapter are presented against the backdrop of a more detailed discussion of policy issues, presented in the Discussion paper, Chapter 7, pp 262-293.

⁸⁶ Department of Telecommunications & Postal Services, "South Africa Connect – Creating Opportunities, Ensuring Inclusion: South Africa's Broadband Policy", page 32

⁸⁷ National Planning Commission, "Vision for 2030: National Development Plan", page 176-177, 11 November

⁸⁸ Ibid, page 363

7.2 Legislative context for institutional reform

The Panel has considered the following provisions in the Constitution, associated legislation as well as relevant international commitments South Africa has made, in making recommendations for institutional arrangements.

7.2.1 The Constitution

The South African Constitution sets out the broad framework for Government and all public entities. Chapter 2 outlines the Bill of Rights and emphasises that the state, including public institutions, must “respect, protect, promote and fulfil” these rights.

Of particular relevance to the recommendations in this Chapter are the following provisions:

- The right to just administrative action that is “*lawful, reasonable and procedurally fair*”. (Section 33)
- Parliament is the Legislative Authority and must provide “*a national forum for public consideration of issues*” and scrutinise and oversee executive action (Section 42). All organs of state are accountable to Parliament (Section 55). The Executive is responsible for crafting and implementing national policies and implementing national laws. (Section 85)
- Each sphere of government (national, provincial and local) must “*exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere*”. (Section 41)
- Provincial government is given exclusive powers in some areas (provincial planning, provincial cultural matters and sport), and concurrent powers with national government in others (including consumer protection and cultural matters). (Schedules 4 & 5)
- Municipalities have the right to “*govern, on (their) own initiative, the local government affairs of (their) community, subject to national and provincial legislation, as provided for in the Constitution*”. The national or a provincial government “*may not compromise or impede a municipality’s ability or right to exercise its powers or perform its functions*”. (Section 151)
- National legislation must set up an independent authority to regulate broadcasting in the public interest “*and to ensure fairness and a diversity of views broadly representing South African society*”. (Section 192)
- The values and principles which must govern public administration include:
 - “*Efficient, effective and economic use of resources*”;
 - “*Public administration must be development-oriented*”;
 - “*People’s needs must be responded to, and public participation in policy-making promoted*”; and
 - “*Transparency must be fostered and public administration must be accountable*”. (Section 195)
- In relation to international agreements, the executive is responsible for “*negotiating and signing*” any agreement, but it is only binding on South Africa “*after it has been approved by resolution in both the National Assembly and the National Council of Provinces*”. A “*self-executing provision of an agreement*” approved by Parliament is law in South Africa “*unless it is inconsistent with the Constitution or an Act of Parliament*”. In addition, courts must in

interpreting laws “*prefer any reasonable interpretation*” consistent with international law. (Sections 231 & 233)

7.2.2 Legislation

Legislation which is pertinent in examining recommendations around institutions, and which was considered in making policy recommendations in this Chapter includes:

- The **Public Finance Management Act**, no 1 of 1999 (“the PFMA”);
- The **Promotion of Administrative Justice Act**, no 3 of 2000 (“PAJ Act” or “PAJA”); and
- The **Promotion of Access to Information Act**, no 2 of 2000 (“PAIA” or the “Access to Information Act”).

7.2.3 International agreements

The following international agreements ratified by South Africa are relevant in considering institutional framework, and were taken into account during the policy review process:

- **World Trade Organisation Reference Paper on Regulatory Principles**
- **The African Commission on Human and Peoples’ Rights: Declaration on Principles of Freedom of Expression (2002)**
- Southern African Development Community: Protocol on Transport, Communications and Meteorology (1996)
- Southern African Development Community: Declaration on Information and Communication Technology (2001)

7.3 Principles for Institutional arrangements

The Panel has noted the following

- Public concerns about the effectiveness of the different entities established and the lack of coordination between different institutions, duplication of resources and ineffective oversight and accountability;
- The general diagnostic of institutions reflected in the NDP that:
 - There are often blurred and inconsistent areas of overlap;
 - Parliament’s oversight role needs to be enhanced;
 - A more “*pragmatic approach to the intergovernmental system is required, recognising uneven capacity*”; and
 - SOE’s have overly complex objectives and governance structures.⁸⁹
 - Problems in coordination between the different spheres of government, exacerbated by the “*wide variation in capacity, particularly at a municipal level*”; local government must be allowed to focus on its core functions “*and not be too burdened with too many extra responsibilities*”.⁹⁰

⁸⁹ National Planning Commission, “Vision for 2030: National Development Plan”, page s 23 and 39

⁹⁰ Ibid, page 356

- The NDP emphasises the important role that public entities can play in fulfilling policy goals and constitutional obligations, but cautions that such institutions should be established only when such public objectives will not be met by either Government and/or the private sector.

Having reflected on the foregoing the Panel recommends that institutional reform be premised around the following issues:

R149. KEY QUESTIONS TO GUIDE INSTITUTIONAL REFORM

The Panel recommends that the questions and criteria below be used as a lens in considering ICT institutional reform. These criteria are extracted from existing laws, rules and regulations (including Treasury rules and Department of Public Service and Administration regulations and guidelines).

- j) Does the public institution or entity have a distinct mandate focused on meeting clearly articulated public goals as set by legislation and/or policy? The functions of such institutions must be specified in any law to extend clarity on the mandate.
- k) Are there any overlaps or conflicts between the mandates and responsibilities set for the entity and any other public institution?
- l) Are there any overlaps or conflicts between the mandates and/or responsibilities for the entity and those set for government department/s or any government agency?
- m) Has there been a thorough assessment to ensure that the mandate cannot or is not likely to be fulfilled by either the executive, the private sector or by NGO's/community organisations? The need for such an entity must be regularly assessed in light of this.
- n) Could the responsibility or function be better fulfilled through partnerships with non-governmental organisations and/or the private sector?
- o) Would self-regulation or co-regulation be a better alternative?
- p) Is the establishment of an entity the most feasible solution to the identified problem?

R150. PRINCIPLES FOR INSTITUTIONAL REVIEW

The questions, posed in the preceding recommendation serve to provide clarity on the mandate of an institution which is being subjected to a review. The next step to consider is whether the governance and institutional structures in place are sufficiently flexible to allow the institution to adapt to meet future requirements and the rapidly changing environment. The Panel recommends that the following principles guide the process:

- i. Any public resource (including, for example, public funding, preferential access to other resources such as spectrum) must be focused on delivering public value and funding mechanisms which are put in place must facilitate this.
- ii. Public entities should be established, structured and managed in order to fulfil objectives set and ensure **value for public money**.

- iii. The governance and institutional structures established must facilitate delivery and effective mechanisms must be put in place to ensure accountability and sanction for non-delivery in line with the PFMA.
- iv. Parliament's oversight must be strengthened by putting in place a formal framework and mechanisms (including clear performance objectives and indicators) which would enable it to assess whether or not the Department and/or institution is fulfilling its goals and having the intended impact. Accounting officers and/or accounting bodies should be held accountable and, if relevant, sanctioned in line with the PFMA.

7.3.1 Consistency of approach across Government

R151. ENSURING A CONSISTENT APPROACH FOR CO-RESPONSIBILITIES

The Panel has noted the recent re-configuration of Government departments which includes the establishment of the Department of Telecommunications and Department of Communications. It is also not clear currently as to what further reconfigurations may take place in future terms of Government. Notwithstanding the Panel recommends that:

- i) There should be a consistent approach to convergence across government such that concerns as to how ICASA and other entities which have co-responsibilities as a result of the reconfiguration will continue to execute their mandate effectively.
- ii) Mechanisms such as MoUs are to be implemented, such that the MoUs are carefully crafted to address in very specific terms how inter-linked decisions are made by SOCs and government departments within a framework of cooperative government.

MINORITY RECOMMENDATION: Government needs to recognise that the phenomenon of convergence and the nature of the sector as a complex, interlocking ecosystem creates enormous difficulties for DTSPS and DOC in developing coherent, consistent policy and ensuring effective governance. A co-ordinating structure must therefore be established to oversee governance of entities whose scope embraces areas of responsibility falling under both departments (ICASA principally) and to ensure that a clear policy mandate is developed and conveyed.

7.3.2 State-Aid rules

An important consideration in the application of principles when undertaking institutional reform is the concept of State-Aid.

R152. APPLICATION OF STATE-AID RULES

The Panel has considered best practice such as in the European Union where State Aid Rules focus on ensuring that state aid does not inhibit fair competition. **The Panel recommends that the following in respect of State-Aid is adopted in undertaking institutional reform:**

- a) The term "State-Aid" is broadly defined to include grants and other advantages. Principles governing state-aid must thus be considered not only in relation to fiscal allocations but also in allocating additional spectrum or determining reserved markets.

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- b) That State-Aid rules apply such that state aid to a company or sector is not permitted unless it is a legitimate response to market failure or a necessary response to concerns about equity or wider social and political objectives.
 - c) That any company which receives state support does not gain an unfair advantage over competitors.
 - d) Exemptions to the foregoing may be granted in order to ensure a well-functioning and equitable economy. These exemptions shall apply to services of general economic interest (SGEI) which may be defined as “economic activities that public authorities identify as being of particular importance to citizens and that would not be supplied (or would be supplied under different conditions) if there were no public intervention”.

The Panel further recommends that State-Aid is only considered under the following circumstances:

- e) State aid should “not lead to undue market distortions”.
- f) Intervention is only warranted if it’s expected that the expected benefit, in terms of improving market outcomes, outweighs the expected cost of intervention and therefore if it is the best feasible remedy.
- g) That the following cumulative conditions are considered in determining whether or not public service compensation constitutes aid:
 - i. The recipient must have clearly defined public service obligations.
 - ii. The parameters for calculating the compensation must be objective, transparent and established in advance.
 - iii. The compensation provided must not exceed what is necessary to cover all or part of the costs of fulfilling the mandate, taking into account the relevant receipts and a reasonable profit.
 - iv. The level of compensation must be determined on the basis of an analysis of the costs of a typical well-run company.⁹¹
- h) All entities who receive State-Aid are to have separate accounts so that these can be analysed in the case of complaints and by operators in their markets.

7.4 Role of Government

Institutions cannot be discussed in isolation from the broader governance and legislative framework, including the mechanisms to ensure oversight and accountability broadly. The South African Constitution specifies that:

- Parliament is responsible for law-making and for holding the public sector accountable to laws and policies (including the executive and all public entities).
- The National Executive is solely responsible for development of national policy and for implementation of legislation.

⁹¹ Source: European Commission, “Overview: State aid control”,
http://ec.europa.eu/competition/state_aid/overview/index_en.html

- Provincial Governments and Municipalities have to develop laws, bylaws, policies and regulations on areas of their competence as defined in the Constitution.

The Panel is aware of several concerns regarding the role of government. This includes issues concerning the overarching governance framework as provided for in the constitution. In addition there is a prevailing concurrence of a lack of coordination generally, and failures in relation to implementation of laws or the objects of laws by the Department/Minister and/or public entities and institutions, challenges in relation to the Ministerial policy-making responsibilities and/or ineffective oversight and accountability at multiple levels.

R153. STRENGTHENING THE ROLE OF GOVERNMENT

The Panel notes the following in respect of role-functions:

- **National Government**
 - National policy-making is the prerogative of national government, with the executive bearing particular responsibility for this. The executive also bears overall responsibility for implementation of laws though public institutions and other government agencies have some responsibility in relation to implementing their own legislation.
 - The Executive is responsible for drafting Bills to implement policy prerogatives for Parliament's consideration. A particular Department or Minister's powers in relation to policy-making and the drafting of laws for consideration of Parliament is curtailed only with regards to any Bill that appropriates money or imposes or relaxes any national taxes, levies, duties or surcharges, taxes, levies etc. Such issues have to be raised in a Money Bill introduced by the Minister of Finance.⁹²
 - The Electronic Communications Act, no 36 of 2005 ("the EC Act") in line with this empowers the Minister to make policies on "*matters of national policy applicable to the ICT sector, consistent with the objects of this Act and of the related legislation*" in relation to a number of strategic areas.⁹³
- **Infrastructure coordination**
 - The Presidential Infrastructure Coordinating Commission (PICC) project which focuses on ICT infrastructure development (Strategic Integrated Project 15) coordinates infrastructure roll-out in the sector. It is chaired by the Minister for Telecommunications and Postal Services and focuses on:
 - The roll-out of national broadband infrastructure;
 - Digital television terrestrial transmitter roll-out.⁹⁴

⁹² Constitution of the Republic of South Africa, sections 73&77

⁹³ EC Act, section 3(1)

⁹⁴ <http://www.gov.za/issues/national-infrastructure-plan/>

- **Local government**

- There have been several instances in which infrastructure implementation is impeded at local government level, given that there are capacity challenges at many municipalities.
- The roles and responsibilities of local government, as set out in the Constitution provide a framework to understand the extent of local government with regards to ICT policy implementation.
- Lack of overarching guidelines co-ordination of ICT spend leads to fragmentation of spend, duplication of network and further marginalisation of disadvantaged consumers as ICT resources are focused predominantly on urban areas.

The Panel considered **how Government's role could be strengthened** during policy implementation and recommends the following:

- a) Government must review the mechanisms, or lack thereof, to facilitate of optimal synergies and cooperation between institutions. We recommend that both governmental and multi-stakeholder coordination must be considered, and that this may consist of one or more coordinating structures.
- b) The roles and responsibilities between national and local government must be clarified so as to overcome impediments to implementation.
- c) All entities (including ICASA) must be bound by any rapid deployment policy.
- d) Mechanisms must be established to consult with local and provincial government when developing laws, policies and implementation plans.
- e) Local government should be invited to sit on advisory and/or consultative committees (such as the National Broadband Council) to ensure their challenges are addressed.
- f) SIP 15 must continue undertaking responsibility for infrastructure coordination. However there are other issues requiring co-ordination. We therefore recommend that further coordination is necessary across government to achieve efficiencies. This must include, amongst others coordination in undertaking gap analysis; gap closing strategies; deployment of services across the three tiers of government; and cyber-security.
- g) The Panel notes the CSIR's role in infrastructure implementation and recommends that the DTSPS must ensure it is consulted in this regard.

R154. BALANCING SHAREHOLDER AND POLICY-MAKING FUNCTIONS

With regards to the separation between government's responsibilities as a shareholder and its policy-making functions, the Panel notes that:

- The entities owned by the state are instruments of policy. Thus the existence of these institutions serves to realise public interest policy objectives, rather than profitability.
 - Recommendations presented in this report regarding the strengthening of independent regulation, regular reporting thereof to parliament, the above identified key questions to be asked in reforming institutions as well as the proposed state aid rules and principles together provide the necessary mechanisms to ensure that SOEs are not adversely affecting competition.
- 



The Panel therefore recommends that:

- A review of SOE's must be undertaken to consider whether current institutions are fulfilling policy objectives.
- Regular assessments of SOE and public entities should furthermore be scheduled in policy and the above principles for institutional reform (including the key questions suggested) should be used to assess the ongoing relevance of such institutions.
- All SOEs and public entities should be specifically required to report annually to government/parliament on performance against their mandates and not confine themselves to only reporting on aspects of these included in annual operational/performance plans.

MINORITY RECOMMENDATION: Shareholding and policy making functions must be maintained in separate Ministries.

R155. OVERSIGHT AND ACCOUNTABILITY

With regards to oversight and accountability, the Panel notes that

- Parliament has the overall responsibility on behalf of the public for holding the Executive and all public institutions to account and scrutinising their plans and activities.
- The PFMA and Treasury Regulations have also included mechanisms to enhance oversight and accountability by, for example, requiring that all public entities are not only subject to independent financial audits but also undergo performance audits.

The Panel therefore recommends:

- a) The development of clear mandates and clarity on the specific functions of the different public entities.
- b) Regular reviews by Government and/or Parliament of the ongoing relevance of specific institutions and/or policy plans against clear criteria and questions.
- c) The incorporation into reviews specific tools such as a form of peer review (360 degree review) including assessment of plans and institutions by stakeholders, including beneficiaries.
- d) That specific powers or functions are built into policy and legislation to ensure that Parliament's activities in relation to oversight and accountability are evidence based.

7.5 Licensing and regulation of ICT sector

Licensing and regulation of ICT sector fall within the purview of the regulator, ICASA. There are several recommendations which pertain to specific aspects ICASA in other chapters of the Recommendations Report. This section comprises recommendations for strengthening the regulator in respects of its institutional makeup.

ICASA is a legislative body, established by the ICASA Act, No 13 of 2000 to regulate broadcasting, electronic communications and postal services "*in the public interest*".⁹⁵ A 2014 amendment to the

⁹⁵ Postal services was added to ICASA's mandate with the introduction of the EC Act in 2005

ICASA Act introduced additional responsibilities for electronic transactions (e-commerce), stating that the regulator has the power to study and make recommendations to the Minister on promoting the development of e-commerce and conduct research into the regulation of such transactions.⁹⁶

Section 3 of the ICASA Act states that the Authority is *“independent, and subject only to the Constitution and the law, and must be impartial and must perform its functions without fear, favour or prejudice”*.

The ICASA Council is the executive authority of the regulator. There are nine Councillors. The CEO is the accounting officer and has key responsibilities laid out in the Public Finance Management Act (PFMA) for ensuring adherence to sound financial management practices.

R156. PERCEPTIONS OF NON-COMPLIANCE BY THE REGULATOR

The Panel notes that:

- During the policy review process, there was a widespread view concerning the perceived ineffectiveness of ICASA.
- The Panel noted concerns regarding adequate resourcing of ICASA, non-compliance by the regulator with regards to national policy objectives and legislative provisions, poor administration, the capacity to enforce compliance with legislation, regulations and licence conditions, and whether ICASA is sufficiently capacitated to fulfil its responsibilities as a regulator.

Given the foregoing, the Panel considered how policy and/or legislation could address perceptions of non-compliance by the regulator with the objectives of law and with national policy, while still ensuring its autonomy. **The Panel therefore recommends:**

- a) The principle of independence of the regulator must be balanced with appropriate mechanisms to ensure accountability.
- b) Parliamentary oversight of the regulator, as an essential mechanism of accountability, must be strengthened to ensure independence from political and other powerful stakeholder influence.
- c) Accountability to parliament thus far has focused on annual performance rather than an assessment of the impact of regulation and the extent to which the regulator is achieving policy objectives. Policy and law must be revised to require ICASA to account to parliament on its achievements and impact in relation to the objectives set for the sector by government and its mandate.
- d) Within the context of parliamentary oversight, ICASA must report specifically on the implementation of national policy objectives and directions and provide to parliament reasons for any deviation.
- e) There must be transparent decision making as far as it is practical. This must reinforce requirements on the publication of reasons for decisions and ensure that appropriate action is taken if such requirements are not implemented.

⁹⁶ ICASA Act, Section 4(3)

- f) Stakeholders must be given an opportunity to make representations to Parliament on ICASA performance (i.e. 360 degree performance assessments)
- g) The regulator must be required to conduct and publish regular research to ascertain public needs and views and align its plans to findings.

7.5.1 Status and independence of the regulator

Section 192 of the Constitution states that legislation must establish an independent broadcasting regulator. South Africa has endorsed WTO principles requiring the establishment of a telecommunications regulator *"separate from, and not accountable to, any supplier of basic telecommunications services"*. The ICASA Act defines the Authority as independent. It states that the regulator *"must function without any political or commercial interference"*⁹⁷ and sets out functions that ICASA is solely responsible for (licensing, monitoring and enforcement of compliance with rules, adjudicating complaints about alleged non-compliance, promulgating regulations on *"any matter consistent with the objects"* of the Act and managing the radio frequency spectrum).⁹⁸

The regulator is listed as a Constitutional Institution in schedule 1 of the PFMA which sets out special accountability and oversight arrangements for such institutions, in recognition of their status in the Constitution. While, for example, the director general of a Government department is the *"designated accounting officer"* of other public entities, Schedule 1 institutions are regarded in the same way as Government departments and have their own accounting officer accountable for sound financial management of the entity (Chapter 5 of the PFMA). Similarly, while the relevant Minister is the executive authority of Departments and public entities, the Chairperson of the Board of a Constitutional institution is given this responsibility in related Treasury Regulations.⁹⁹

The EC Act states that the Minister may issue policy directions to the regulator on any matters and priorities except regarding the granting, amendment, transfer, renewal, suspension or revocation of a licence. The Authority must *"consider"* policies made by the Minister and policy directions issued.¹⁰⁰

R157. INDEPENDENCE OF THE REGULATOR

The need to reinforce formal and *de facto* independence of ICASA in relation to licensing, rule-making and monitoring and enforcement, while balancing accountability and oversight to ensure it efficiently and effectively fulfils national policy objectives was a core consideration of the Panel.

With regards to **how to ensure the regulator acts independently but in line with National policy objectives**, the Panel recommends that:

- a) Any deviation from policy must be reported to Parliament and the policymaker by the regulator. The regulator should continue to be allowed to use its discretion in relation to

⁹⁷ ICASA Act, Section 3(4)

⁹⁸ ICASA Act, Section 4

⁹⁹ National Treasury, 'Treasury regulations for departments, constitutional institutions, public entities, Parliament and provincial legislatures: Issued in terms of the Public Finance Management Act', March 2001

¹⁰⁰ EC Act, sections 3(2) to 3(5)

implementing any policies and/or policy directions, but in such instance it must be required to justify and explain such deviations.

- b) Policy and law must furthermore clearly distinguish between policies and policy directions, and the requisite actions of the regulator with regards to the latter. The principle of “apply or justify” must be specified to ensure that the instances where the regulator does not implement policy directions, it justifies its decisions in this regard to Parliament.
- c) General duties of the regulator must be included in law, including promoting competition across networks and services, equal treatment of technologies, reviewing regulatory burdens, regular impact assessments, increasing the ease of doing business in the sector, publishing decisions promptly and adhering to timeframes, and conducting appropriate and relevant international benchmarking.

R158. AVERTING REGULATORY CAPTURE

The Panel also considered how regulatory capture could be averted. It recommends in this regard that:

- a) Measures to strengthen oversight and accountability as recommended in the preceding section be enforced.

R159. MECHANISMS TO ENHANCE PUBLIC INVOLVEMENT IN THE REGULATOR

With regards to **mechanisms to enhance public involvement in the regulator** and ensure public needs are considered and addressed, the Panel recommends that:

- a) Stakeholders be given an opportunity to make representations to the National Assembly regarding ICASA's discharge of its mandate (refer to recommendations at the outset of this sub-section)
- b) In addition to public inquiries, ICASA should conduct regular research in the ICT sector to determine public needs and views.
- c) Provisions provided for in law must be enforced, such as those requiring that the minutes of meetings of the ICASA Council should be made public within a reasonable time, subject to appropriate safeguards to protect confidential information.

7.5.2 Oversight and accountability

Any independent institution must also be accountable for implementation of its public mandate and key provisions of legislation, its use of public funds and resources and its implementation of annual objectives agreed on with Parliament. Legislation and general laws such as the PFMA and related regulations outline mechanisms to hold public institutions to account for efficient and effective management of public resources. These include provisions requiring the drafting of a performance plan for Parliamentary approval and auditing against this plan. In addition, the ICASA Act includes specific provisions to “*monitor and evaluate the performance of*” the Council collectively and individual councillors.¹⁰¹ These have however not been implemented.

¹⁰¹ ICASA Act, Section 6A

R160. REPORTING REQUIREMENTS OF ICASA TO PARLIAMENT

The Panel assessed whether policy should introduce additional reporting requirements for ICASA to enable Parliament to properly fulfil its responsibility to hold the regulator to account in terms of its mandate. In this regard the Panel recommends that:

- a) Revisions to policy and law are required as stipulated above to facilitate proper oversight. Clarity on what issues ICASA should report on will facilitate transparency and assist the regulator in preparing reports.
- b) Parliament must further strengthen its capacity to hold the regulator and government to account.
- c) The principle of “apply or justify” provisions in law, policy and policy directions must apply with the regulator being accountable to Parliament and required to report to Parliament how it has implemented policy or justify, in line with legislative provisions, variations or non-implementation of policies.
- d) When the regulator deviates in any way from legislation, policy or policy directions, its justification should include: The reasons why it varied from such policy/legislative provisions, what impact, if any, the deviation will have on the envisaged policy outcomes and how it intends to still ensure the realisation of such intentions. Parliament should have the power to intervene if it is not convinced by the regulator’s response in a manner that does not compromise ICASA’s right to independent decision-making.

R161. PERFORMANCE MANAGEMENT PROVISIONS FOR ICASA

With regards to the current **performance management provisions** for ICASA, the Panel notes the lack of a performance management system for the Council. The Panel therefore recommends that:

- a) A performance management system for the regulator must be developed as a matter of priority and that Parliament must be responsible for performance management and for determining what mechanisms should be put in place to implement this.
- b) Given that there are several guidelines in other legislation such as the PFMA, these must be drawn upon to develop an effective performance management guideline. It must be noted that the implementation of a more robust performance management system does not impede independence.
- c) Performance management must be dealt with at the level of the entity, rather than that of individuals. Individual performance is a matter of organisational policy which must be enforced through performance agreements. Broad recommendations emanating from internal performance management must be a component of parliamentary reporting.

7.5.3 Responsibilities of the regulator

Other chapters of this report have identified a number of sector specific responsibilities. This section does not repeat these, but focuses on broad responsibilities of the regulator, as well as related amendments to legislation introduced in 2013 which were deferred to the policy review process. These include spectrum management and adjudication of complaints.

7.5.3.1 Publishing of information and regulatory impact assessments

During the policy review process the Panel noted suggestions that the regulator should be required to collate information more effectively than it already does, and to make such information publicly available. In addition it was noted that this information be used in tandem with other research to publish regular reviews of the markets it regulates, industry statistics and assessments of the impact of its interventions.

R162. PUBLISHING OF INFORMATION AND REGULATORY IMPACT ASSESSMENTS

The Panel notes the concerns raised as to whether ICASA has sufficient powers to require licensees to submit the information necessary to conduct regular market reviews. The Panel also notes that there are suggestions that Chapter 10 of the Act (regarding competition matters) could be interpreted as limiting the regulator's ability to publish information on markets it regulates without conducting a full market inquiry.

The Panel therefore recommends that:

- a) ICASA be required to publish regular reports on a range of issues, based on information it collects regularly. Such reporting should be meaningful and must be targeted at informing the public of its activities and of the state of the sector it regulates.
- b) With regards to regulatory impact assessments (RIAs), the Panel is in support that such assessments be conducted where necessary. However the cost of a RIA must be weighed against the potential value-added potential of its outcomes and impact. Thus only significant regulatory issues should require a RIA. It is also noted that the regulator could determine criteria to trigger different types of RIAs – noting that not all regulatory interventions would require the same depth of impact assessment.
- c) A framework for the conduct of a RIA must be developed by the regulator, and it should specify the processes involved for lighter and more detailed impact assessments. The Panel recommends that ICASA must first thoroughly canvass the issues which might trigger an RIA, then publish a discussion document, after which it must conduct hearings, and thereafter apply regulatory principles to publish a position paper.
- d) The Panel further notes that the publication of discussion papers and position papers along with regulations allows for a more thorough regulatory process and that policy and law should encourage this practice.

7.5.3.2 Spectrum management

In 2013, draft amendments to legislation put forward by the then Minister of Communications included a proposal to establish a Spectrum Management Agency and remove the responsibility of management of spectrum to this new institution. According to the draft provisions, the Agency would also provide advice on spectrum policy. The draft amendments were deferred pending the finalisation of the ICT Policy Review process. Spectrum management is currently one of the responsibilities given to ICASA.

R163. SPECTRUM MANAGEMENT AGENCY

With regards to spectrum management, the Panel canvassed inputs as to whether

- The status quo be retained, but with measures to strengthen the regulator's capacity to undertake spectrum management;
- A separate entity should be established within ICASA to ensure that there is a greater focus on spectrum management; or
- If a separate agency be established.

The Panel considered a wide number of viewpoints on this matter. The Panel is of the view that there isn't sufficient information available from the policy review process to make a firm recommendation. It is thus recommended that:

- a) The recommended policy review on spectrum (refer to recommendations in the Infrastructure and Services Chapter) be expanded to ascertain which of the above listed options is feasible and most efficient and effective in meeting objectives and assigning spectrum. This would require a collaborative approach between the DTPS and DoC.

7.5.3.3 Complaints and compliance

ICASA is currently required to establish a Complaints and Compliance Committee (CCC) of no more than seven members including one Councillor. The Chairperson of the CCC must be a judge, magistrate or advocate or attorney with at least 10 years' experience. The Committee adjudicates on complaints against licensees on non-compliance with the law, regulations and licence conditions. This includes complaints from members of the public and allegations of transgression emanating from ICASA. The CCC makes a finding on any complaint following a hearing. It does not have the power to sanction licensees but must recommend to the Council what action it proposes be taken.¹⁰²

R164. COMPLAINTS AND COMPLIANCE

The Panel notes that

- There is a backlog of complaints before the CCC.
- The Committee is made up of external and therefore part-time members and the seven members are required to deal with complaints about licensees in all regulated sectors.
- The 2013 draft amendments to the ICASA Act proposed that the CCC be restructured as a separate Commission, appointed by the Minister rather than the Council and its ambit be extended to general non-compliance with the Act rather than only allegations of breaches by licensees. This amendment was deferred pending finalisation of the policy review process.

The Panel recommends that:

- a) The status quo must remain but provisions introduced to strengthen ICASA's enforcement capacity.
- b) The relationship between the Council and the CCC must be reviewed. As a minimum, the Panel recommends that the CCC should be given greater decision making power.

¹⁰² ICASA Act, sections 17A-17E

7.5.4 ICASA decisions and the role of alternate dispute resolution mechanisms

Under current policy and legislation, ICASA decisions can only be reviewed by a court. In countries such as the UK, which has a similar system, concerns have been raised by both consumer groups and the regulator that this can result in an “over-legalistic approach” and delays in effecting rules aimed at protecting consumers due to ongoing and lengthy reviews of decisions on technicalities rather than the substance of requirements.¹⁰³

R165. REVIEWING OF ICASA DECISIONS AND THE ROLE OF ALTERNATE DISPUTE RESOLUTION MECHANISMS

The Panel recommends that:

- a) The status quo must remain i.e. only a court can review ICASA decisions.
- b) However, the lack of a sufficient alternate dispute resolution (ADR) mechanism must be addressed. The Panel has noted concerns that a lack of an effective ADR mechanism results in delays through court processes to resolve disputes. It is therefore recommended that that a review be undertaken with a view to assess international best practice, the effectiveness of current provisions for ADR so as to establish what additional or alternative ADR processes are needed. The policy maker should be responsible for such a review.
- c) The models of the Competition Tribunal and Competition Commission may be used as a basis to review this issue.

7.5.5 Structure of the ICASA Council

The ICASA Council currently consists of nine full-time members, including the Chairperson. Section 8 of the ICASA Act states that a councillor may only be removed from office by Parliament for limited reasons (for example, misconduct, absence from three consecutive meetings except on good cause shown, failure to disclose an interest etc.). The process of appointment of members of the regulator and protection against arbitrary removal are seen as important mechanisms in promoting independence of a body such as ICASA. ICASA is responsible for appointing its own CEO and staff. The CEO is the accounting officer for the Authority.

R166. STRUCTURE OF THE ICASA COUNCIL

The Panel notes that the structure of the Council is an important consideration to ensure efficient and effective decision-making. The roles and responsibilities of Council and the executive is also a component of this.

The Panel considered a range of inputs on ICASA’s structure. Inputs from stakeholders included the splitting of the responsibilities of the council, the need for clearer delegation to management of ICASA, and whether councillors should serve in full time or part time capacities, the ideal number of councillors. Concern was raised that the current structure has resulted in some of the sectors regulated being neglected.

¹⁰³ See http://www.theregister.co.uk/2014/02/05/ofcom_appeals_reform_backed/ for example

Having considered a range of submissions, the Panel recommends that:

- a) There should be an integrated board. The board must include executive and non-executive members (full-time and part-time).
- b) There must be a clear directive on how the board is structured to deal with all aspects of its mandate equally.
- c) The board structure must include standing committees which have oversight for the different focus areas (currently four, viz. broadcasting, telecommunications, postal services and e-commerce transactions) and that this must be provided for in law.
- d) Each standing committee should be led by a vice-chairperson, and include a sufficient number of members (both executive and non-executive as relevant).
- e) The number of Council/board members, both full-time and part-time, must be determined after conducting further benchmarking and in consideration of the regulator's mandate.
- f) The roles and functions of executive and non-executive members must be specified such that they are appropriately differentiated.
- g) There must be clear guidelines which provide for the oversight of management by non-executive members of the board as per King III and associated principles of good corporate governance. This includes a provision that an explicit delegation be given to ICASA management by the board.

7.5.6 Appointments process

There were several concerns raised in submissions regarding the need to ensure that the regulator has sufficient expertise to fulfil its mandatory obligations. Further concerns were expressed that the appointing body must have the capacity to thoroughly assess and evaluate nominees against legislative requirements and identify what experience/expertise is most needed when filling a vacancy.

R167. STRENGTHENING ICASA APPOINTMENT PROCESS

The Panel notes that the current appointment process provides that:

- Following on a public nominations process, Parliament draws up a short list of suitable candidates for interview. In so doing, the National Assembly may constitute a panel of technical experts to assist it in the selection, evaluation and appointments process.
- The National Assembly submits a list of preferred candidates to the Minister who recommends the people from the list that she or he proposes to appoint. The National Assembly may request the Minister to review his or her recommendation.
- Once the National Assembly has approved the Minister's proposed candidates, they are appointed by the Minister by notice in the Government Gazette.

Having considered the range of submissions on this issue during the review process, the Panel recommends that the status quo must be strengthened:

- a) Legislation is strengthened to the extent that descriptors of the required expertise are explicit. Particular attention must be paid to the formulation of the descriptors of expertise, taking into account the range of ICASA's mandate.

- b) Appointments to the ICASA council are made strictly according to the published descriptors of expertise.
- c) It be made mandatory that Parliament appoint a panel of experts to assist with the short-listing and interviewing process.
- d) That the process of appointments incorporates an independent verification of qualifications and candidates' background prior to appointment. It is essential in this regard that thorough checks are done on candidates before appointment, including, for example, screening to ensure the candidate and his or her family have no interests in any entities that could be perceived as conflicts of interest, credit checks, and confirmation of past work experience cited .

7.5.7 Funding

ICASA is currently financed from money appropriated by Parliament. Section 15(1A) of the ICASA Act specifies that it may also *“receive money determined in any other manner as agreed between the Minister of Communications in concurrence with the Minister of Finance and approved by Cabinet”*. This latter clause was added after the promulgation of the EC Act and in effect gives the two Ministers broad ranging powers to allow the regulator to, for example, retain certain fees to cover services without necessarily having to amend the Act. No alternative funding mechanisms have however been introduced since the introduction of this clause, though ICASA has been allowed to retain interest earned on its funds.

Section 15(3) states that any revenue received by the Authority *“other than that in accordance with sub-section 1”* must be paid into the National Revenue Fund (“the NRF”) within 30 days of receipt.

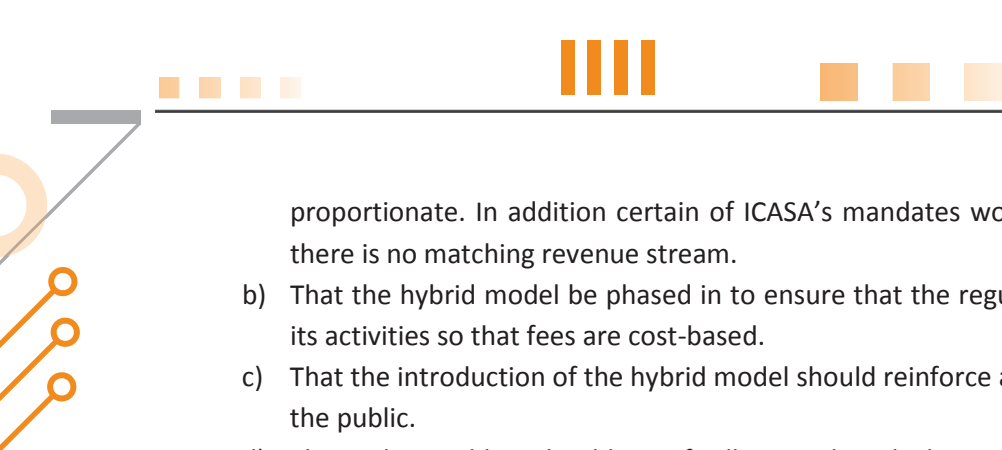
R168. ICASA FUNDING MODEL

The Panel notes

- Funding is seen as a key component of independence both from government and from operators.
- The concern among stakeholders regarding the adequacy of and mechanisms for funding ICASA.
- The need to strengthen the capacity of the regulator to accurately cost its activities and budget appropriately.
- The concern that ICASA has stated that it may not have adequate resources to ensure it can implement policies and laws effectively and independently, although in recent years ICASA has not spent its entire budget.
- That it is imperative for the sound operation of the Authority that it be able to quantify the projected operational spend; and in doing so be able to motivate for the proposed budget.
- Concerns related to the perceived inappropriate prioritisation of expenditure by ICASA.

The Panel therefore proposes

- a) That a hybrid model for the funding of ICASA be implemented. In this model, ICASA would retain some of the fees collected on a cost-recovery basis so that the sectors regulated cover the costs of regulation. The determination of these fees would have to be transparent and



proportionate. In addition certain of ICASA's mandates would be funded by government if there is no matching revenue stream.

- b) That the hybrid model be phased in to ensure that the regulator has the capacity to cost all its activities so that fees are cost-based.
- c) That the introduction of the hybrid model should reinforce accountability by the regulator to the public.
- d) That policy and law should specifically consider which mandates would still require support by government. This includes key public interest objectives such as inquiries into fair competition.
- e) .
- f) The implementation of the hybrid model must be subject to a more detailed assessment of which elements are to be funded and which should be self-funded.

7.6 Self-regulation and co-regulation

Areas for possible self-regulation and co-regulation are identified in previous Chapters. The EC Act currently provides for co-regulation of a code of conduct for broadcasters (section 54) and self-regulation of advertising content by the Advertising Standards Authority.

R169. PROVISIONS FOR SELF- REGULATION AND CO-REGULATION

The Panel notes

- The general concurrence that self-regulation should be encouraged where appropriate.
- The principle of self- and co- regulation in policy has an important role in addressing consumer complaints.

The Panel therefore recommends

- a) That a model be developed and applied to support, where appropriate, co-regulation, and to encourage self-regulation.
- b) Co-regulation be instituted where necessary, to promote and enforce public interest objectives.
- c) The co-regulation framework must entail the development of consensus-based and enforceable set of standards approved by the regulator. Such codes of conduct must include proportionate compliance and enforcement mechanisms, with compliance and enforcement for non-signatories at the hands of the CCC.
- d) Such a model must comprise a clear framework for the accreditation of co-regulatory mechanisms.
- e) That the model provides for cross-sector co-regulation.
- f) In addition, there should be a common approach across government and public entities on the criteria to be used to accredit such bodies.

7.7 Universal service

The objects of the EC Act stipulate that one of its purposes is to “*promote the universal provision of electronic communications networks and electronic communications services and connectivity for all*”.¹⁰⁴ ICASA is given some responsibilities in relation to this through its licensing and by setting universal service and access obligations for relevant licensees. The Broadcasting Act gives specific responsibility to the SABC to be available to all audiences across the country. Sentech as the common carrier also has to ensure universal access to broadcasting signals. The Post Office has also got specific mandates in this regard.

In order to further policy obligations, the 1996 White Paper on Telecommunications, and subsequently the EC Act proposed that, in addition to the regulatory specifications dealing with universal service and access, an agency should be established to focus specifically on this area and a fund created to fulfil objectives. Chapter 14 of the EC Act deals with the structure and mandate of the Universal Service and Access Agency of South Africa (USAASA) and the Universal Service and Access Fund (USAF). Section 82 of the Act states that the Agency must among other things:

- Strive to promote the goal of universal access and universal service;
- Encourage, facilitate and offer guidance in respect of any scheme to provide universal access or universal service; and
- Foster the adoption and use of new methods of attaining universal access and universal service.

R170. DISSOLUTION OF USAASA AND ESTABLISHING A FUND MANAGER

Note: The recommendation presented in this section, must be read together with the recommendations regarding the establishment of the ICT-Development Fund in the Infrastructure and Services Chapter of this report.

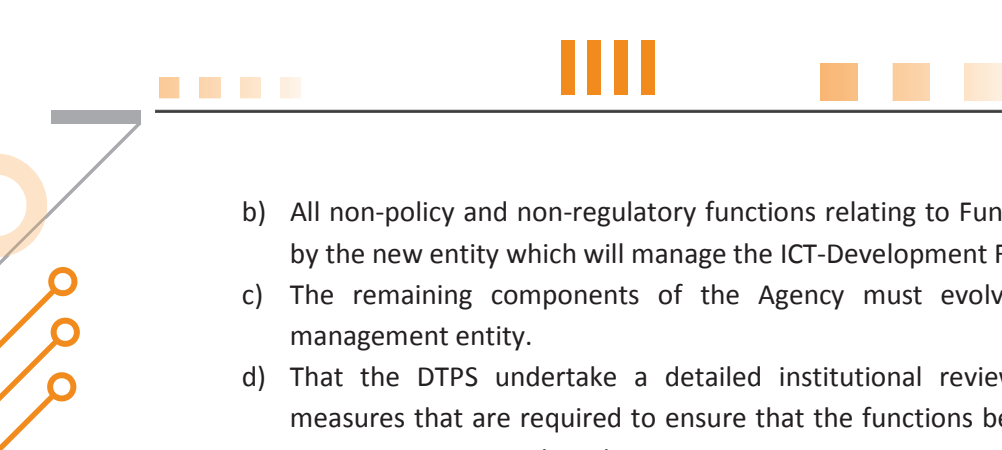
The Panel did not divorce the issues concerning the USAF, and that of the Agency. The nature of inputs to the Panel on institutional arrangements was inevitably linked to issues concerning the USAF. The Panel took into consideration that:

- There is a broad consensus among stakeholders that USAASA had been ineffective in achieving its mandate, as outlined in Chapter 14 of the EC Act.
- There is a lack of clarity and overlapping roles between the USAASA, ICASA and the Minister/Department and that these should be resolved.
- There is broad agreement that it is still necessary to have a fund to address universal service and access.

It is therefore recommended that:

- a) The Agency as it currently exists should be dissolved and existing functions transferred to ICASA (regulatory functions) or to the DTSPS (policy-making functions).

¹⁰⁴ EC Act, section 2(c)

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- b) All non-policy and non-regulatory functions relating to Fund management shall be retained by the new entity which will manage the ICT-Development Fund.
 - c) The remaining components of the Agency must evolve into an independent ICT-DF management entity.
 - d) That the DTPS undertake a detailed institutional review and establish transformative measures that are required to ensure that the functions being transferred to the new fund management entity has the requisite capacity to manage the proposed ICT-Development Fund.

7.8 Competition

Refer to recommendations presented in Chapter 3: Infrastructure and Services (Section 3.4.3).

7.9 Consumer protection

Refer to recommendations presented in Chapter 3: Infrastructure and Services (Section 3.6.5)

7.10 Privacy

The increasing importance of ensuring that the privacy of end-users is protected has been raised in several other sections of this Discussion Paper. Increased concerns around privacy are inevitable given that providers and others can track online activity by users. It has also been noted that it will become increasingly important to ensure transparent information to users of services and audiences about protection of their information, and how this might be used.

The Protection of Private Information Act (POPI Act) was promulgated in 2013. It provides for the establishment of an Information Protection Regulator to monitor and enforce compliance with the Act (and with PAIA) and adjudicate on complaints on alleged violations.

R171. ALIGNMENT WITH POPI ACT

The Panel notes that

- There is a need for the Information Protection Regulator and ICASA to cooperate and work together to ensure the privacy of data and individuals.
- A framework for inter-institutional cooperation and coordination is necessary so as to overcome overlaps and duplication.
- In the ICT sector, the issue of privacy has specific implications which relate to, for example, communications interference and tapping of telephones.

The Panel therefore recommends that:

- a) Policy and law in the ICT sector reviewed to ensure alignment with the POPI Act and cooperation with the new information regulator.

- b) Policy and legislative amendments are required to align ICASA's responsibilities with the POPI Act.
- c) ICASA should be required to enter into a MoU with the new Information Regulator once established. This should clearly outline responsibilities, and allow for cooperation on determining if any licence conditions or other rules could assist in protecting privacy in line with the Constitution.
- d) Policy should emphasise the provisions of the Constitution in relation to privacy and the limitations on this right.

7.11 Protection of children, content standards and classification

As noted in the Audio and Audio Visual Content and Digital Economy Chapters new media and services introduced with convergence have implications for the approach to the protection of children and the setting of broadcasting related editorial codes and content standards. The recommendations in these Chapters highlight the need for a closer working relationship between the Film and Publications Board and ICASA and other content related regulators to ensure, for example, a common classification framework across the different sectors and to make it easy for audiences and users to know which body to complain to.

R172. COOPERATION BETWEEN REGULATORY AUTHORITIES TO ENSURE PROTECTION

The Panel notes that

- In view of convergence there are challenges in relation to ensuring common approaches to protection of children and setting of content standards across all platforms
- There is a need for organisations such as the FPB, the BCCSA and ICASA to review the way they work collaboratively.
- Concurrent jurisdiction issues need to be resolved.

The Panel therefore recommends that

- a) The DTSPS together with the DOC must facilitate cooperation between regulatory authorities (such as ICASA, the ASA, FPB, BCCSA and the press ombudsman) to ensure coordination and to address protection issues in an era of convergence.
- b) Consideration be given to the development and formalisation of co-regulation mechanisms to encourage such practices while protecting the public interest. As stated previously, government should consider developing common criteria for approval of co-regulatory structures across all spheres.
- c) Policy should recognise that co-regulation has worked relatively well to date in relation to broadcasting and consider how this model could be extended.

7.12 State-owned companies and public entities

Other chapters of this report provide more detail on existing state-owned companies and public entities relevant to the sectors covered and consider if their mandates are still relevant.

The following state-owned companies and public entities fall under the DTPS.¹⁰⁵

THE DEPARTMENT OF TELECOMMUNICATIONS AND POSTAL SERVICES (DTPS) State Entities



The following entities fall under the DOC.

THE DEPARTMENT OF COMMUNICATIONS State Entities



The National Broadband Policy has, as previously indicated, emphasised the need for better coordination between the different entities through clear definition of roles, the integration of planning, monitoring and evaluation and the development of institutional capacity. It has said that rationalisation will remove administrative bottlenecks and unnecessary duplication.

R173. REVIEW OF INSTITUTIONS REPORTING TO THE DTPS

The Panel notes that:

- The DTPS is conducting a micro study on areas of duplication and possibilities for rationalisation and has established a committee to specifically focus on this.

¹⁰⁵ The DTPS also has shareholding in some ECNS licensees such as Telkom and Vodacom.



- The study will be informed by the macro study of the Presidential Review Committee on State-owned Entities.
- It does not intend to duplicate the work of these committees and entities.

The Panel therefore recommends that all the proposals concerning institutional arrangements in this Chapter, and elsewhere in the Recommendations Report, be considered by the relevant committees which are currently undertaking the review of institutions. This includes suggestions on key questions to be considered in reviewing such entities and enterprises and the proposed introduction of state aid rules.



Acronyms and Abbreviations

3G	Generic name for third-generation network networks or services, for example GSM ¹⁰⁶
4G	Fourth-generation mobile network or service offering both mobility and high bandwidth.
ABC	Australian Broadcasting Corporation
ABSIP	Association of Black Securities and Investment Professionals
ACEIE	African Center of Excellence for Information Ethics
ACT-SA	Association of Community Television – South Africa
ADSL	Asymmetric Digital Subscriber Line
AIP	Administrative Incentive Pricing
AM	Amplitude Modulation
AU	African Union
BASA	The Banking Association of South Africa
BBC	British Broadcasting Corporation
BCCSA	The Broadcasting Complaints Commission of South Africa
Bit/s	Bits per second
BRICS	Brazil, Russia, India, China and South Africa group of emerging economies
CAGR	Compound annual growth rate
CBC	Canadian Broadcasting Corporation
CCC	The Complaints and Compliance Committee
CIPC	Companies and Intellectual Property Commission (CIPC), previously <i>CIPRO</i>
CPA	Consumer Protection Act, No. 68 Of 2008
CRTC	Canadian Radio-television and Telecommunications Commission
CSIRT	Computer Security Incident Response Team
DAB	Digital Audio Broadcasting
DBE	Department of Basic Education
DBSA	Development Bank of Southern Africa
DIRCO	Department of International Relations and Cooperation
DMMA	Digital Media and Marketing Association
DNS	Domain Name System
DOC	Department of Communications
DPSA	Department of Public Service and Administration
DST	Department of Science and Technology
DTH	Digital-to-home
DTI	Department of Trade and Industry
DTPS	Department of Telecommunications and Postal Services

¹⁰⁶ Adapted from ITU Trends in Telecommunication Reform 2013



DTT	Digital Terrestrial Television
ECA	Electronic Communications Act, No. 36 of 2005 as amended
ECTA	Electronic Communications and Transactions Act, No. 25 of 2002
EEP	Equity Equivalent Programmes for Multinationals
EPGs	Electronic program guides
EU	European Union
FDI	Foreign Direct Investment
FM	Frequency modulation
FOSS	Free Open Source Software
FPB	Film and Publication Board
FSB	Financial Services Board
FTA	Free-to-air television
FTTH	Fibre-to-the-home
FTTP	Fibre to the Premises
FXI	Freedom of Expression Institute
GATS:	General Agreement on Trade in Services
GDP	Gross Domestic Product
GHG	Greenhouse gas
GITOC	Government Information Technology Officers Council
GPS	Global positioning system
GSM	Global System for Mobile communications
GSMA	Global System Mobile Association
HDTV	High-definition television
HEI	Higher Education Institutions
Hz	Hertz
ICANN	Internet Corporation for Assigned Names and Numbers
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
IDC	Industrial Development Corporation
IITPSA	Institute of Information Technology Professionals South Africa
iNESI	Ikamva National eSkills Institute
IP	Internet Protocol
IPAP	Industrial Policy Action Plan
IPTV	Internet Protocol Television
ISP	Internet service provider
ISPA	Internet Service Providers Association
ITA	Information Technology Association
ITU	International Telecommunication Union
JINX	Johannesburg Internet Exchange
LAN	Local area network.





LLU	Local loop unbundling
LSM	Living Standards Measure
LTE	Long-term evolution
MDDA	Media Development & Diversity Agency
MICT SETA	Media, Information and Communication Technologies Sector Education and Training Authority
MIOS	Minimum Information Interoperability Standards
MISS	Minimum Information Security Standards
MMA	Media Monitoring Africa
MOU	Memorandum of Understanding
MPDP	Media Policy and Democracy Project
M-PESA	<i>M-PESA</i> (M for mobile, pesa is Swahili for money) is a mobile money transfer service
MUX	Multiplexer
NAB	National Association of Broadcasters
NCAC	National Cybersecurity Advisory Council
NCC	National Consumer Commission
NCRF	National Community Radio Forum
NDP	National Development Plan 2030
NEMISA	National Electronic Media Institute of South Africa
NERSA	National Energy Regulator of South Africa
NFVF	National Film and video Foundation
NGO	Non-Governmental Organisation
NPC	National Planning Commission
NRF	National Research Foundation
ODM	On Digital Media
OECD	Organisation for Economic Co-operation and Development
Ofcom	Office of Communications: The Independent Regulator in the UK
OTT	Over-the-top
PASA	Payments Association of South Africa
PFMA	Public Finance Management Act
PICC	Presidential Infrastructure coordinating Commission
POP	Point of Presence
POPI	Protection of Personal Information Act, No. 4 of 2013
PPF	Progressive Professionals Forum
PPP	Public–Private Partnership
R&D	Research & Development
R2K	Right 2 Know Campaign
RDI	Research, Development and Innovation
RIA	Research ICT Africa
SA	South Africa
SABC	South African Broadcasting Corporation



SACCI	South African Chamber of Commerce and Industry
SACF	South African Communications Forum
SADC	Southern African Development Community
SALGA	South African Local Government Association
SANDA	South African National Deaf Association
SAPO	South African Post Office
SAPS	South African Police Service
SARS	South African Revenue Service
SEZ	Special Economic Zone
SIPs	Strategic Integrated Projects [consists of 18 strategic integrated projects]
SITA	State Information Technology Agency
SKA	Square Kilometre Array South Africa
SMME	Small Medium and Micro Enterprises
SMP	Significant Market Power
SOC	State Owned Company
SOE	State owned Entity
SOS	SOS: Support Public Broadcasting Coalition
STB	Set-top box
UK	United Kingdom
UN	United Nations
UPU	Universal Postal Union
USA	United States of America
USAASA	Universal Service and Access Agency of South Africa
USAF	Universal Service and Access Fund
USF	Universal Service Fund
USO	Universal Service Obligation
VoD	Video on Demand
VoIP	Voice over Internet Protocol
VPN	Virtual private network
WAPA	Wireless Access Providers' Association
WASPA	Wireless Application Service Providers' Association
WIPO	World Intellectual Property Organisation
WLL	Wireless local loop
ZaDNA	.ZA Domain Name Authority

